CARTESIAN LOGIC *

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Abstract

In this endeavor, we first give a logical explanation for all quantum phenomena. Then using it as a basis, we proceed to give a logical explanation for gravity; and then for dark matter and energy. So the aim this presentation not to make things precise, but to give a logical reason why things are the way they are.

*Not by might, nor by power, but by my SPIRIT, saith the LORD of hosts.

Contents

1 Introduction

Consider

- A finite
    - System.

Then we see that,

- Since
    - It
        - Is:
            - *Finite*,

it

- Can
    - Be
        - Listed
            - On paper.
- But
    - In
        - Some
            - Way,

if

- If we
    - Embed:
        - An inductive process
            - Into it,

then

- It

    - Will
        - Become:
            - An infinite system.

- And
    - Also:
        - *Changes*

will

- Take
    - Place

by

- Some:
    - Precise
        - Rules.

- But
    - If
        - We:
            - *Remove*

that

- Inductive
    - Process
        - Which

we

- Embedded
    - Into:
        - It,

we see that,

- The system
    - Will:
        - ▷ Return
            - Back

into

- Its
    - Original:
        - ▷ Finite
            - State.

So we see that,

- If:
    - A system
        - ▷ Does
            - *Not*

have

- An induction
    - In:
        - ▷ It,

then

- It
    - Will
        - ▷ Be:
            - *Finite.*
- And so

- Using:
    - ▹ This
        - As a basis,

we

- Proceed
    - To:
        - ▹ Give

a

- Logical
    - Explanation
        - ▹ For
            - All:

"*quantum phenomena*,"

- And
    - Then
        - ▹ Using
            - That:

"*quantum basis*"

we

- Proceed
    - To
        - ▹ Explain:
            - Gravity,
            - Dark matter,
            - And dark energy.

2 Quantum mechanics

2.1 Particle shape

Consider

- The
  - Set:

$$S = \{ a, b, c, d, e \},$$

- And
  - Let
    - The
      - Rules

in

- The system

be:

- At anytime,
  - We can
    - Choose
      - An element of: S.
- But
  - Even though,
    - We choose
      - An element,

we

- Do not
  - Remove

- ▹ It
  - From: S.

- And
  - There are
    - ▹ *No* other
      - Rules.

- Then we see that,
  - This
    - ▹ Is:
      - An infinite process.

- But since
  - *No* rules
    - ▹ Are:
      - Used

to

- Define:
  - That
    - ▹ Process

of

- Choosing:
  - An element
    - ▹ Of: S,

we see that,

- Those choices
  - Will be

        - ▷ Made:
            - Randomly.

- But
    - If we
        - ▷ Define:
            - Some rules

for

- Making
    - Those:
        - ▷ Choices,

then

- They
    - Will
        - ▷ Always

be

- Chosen
    - In:
        - ▷ A predetermined
            - Way.

- And
    - So
        - ▷ If:
            - A part

of

- A system:

        - Has:
            - *No*
                - Rules,

then

- That
    - Part

will

- Randomly
    - Be
        - In:
            - One

of

- The
    - Possible
        - States.
- But if
    - There
        - Are:
            - Some rules,

then

- That part
    - Will:
        - Follow
            - Those rules.
- And so

- When
    - We:
        - Consider

the

- Equation
    - Of
        - A line:

$$y = x + 1$$

we

- See
    - It
        - As:
            - A straight line,

only

- Because
    - Some rules
        - Are:
            - Used

to

- Define
    - That:
        - Shape.
- But
    - The things
        - That:

- Pertains

to

- The
  - Thickness
    - Of
      - The line:

$$y = x + 1$$

will

- Be:
  - Fuzzy,

since

- There
  - Are:
    - *No*
      - Rules

to

- Define
  - That:
    - Thickness.
- And
  - So
    - The:
      - Shape

of

- A *point*
    - In:
        - *Space*

cannot

- Be:
    - A square,
        - Or
            - A circle,

since

- There
    - Are:
        - *No*
            - Rules

to

- Define:
    - A square
    - Or a circle
        - Over
            - There.
- And so
    - A point
        - In:
            - Space

will

- *Not*

- Have:
  - Any
    - Shape.

- And
  - So
    - A point
      - Will

be

- A shapeless
  - Something
    - That:
      - *Exists*,

since

- It:
  - *Exists*.

- And so
  - The shape
    - Of:
      - A point

will

- Be like
  - That
    - Of:
      - A particle.

- Also

    - Since
        - There

are

- *No* rules
    - Or induction
        - In:
            - A point
- And
    - Since
        - Something:
            - Cannot *exist*,

when

- Its
    - Size
        - Is:
            - *Zero*,

we see that,

- A point
    - Will be
        - Of:
            - A finite size.
- And
    - So
        - All:
            - Particles

will

- Be
  - Of:
    - ▹ A finite
      - Size.

2.2 Orbitals

Consider

- The
  - Inductive
    - ▹ Sequence:

$$i_1, \qquad i_2 = f(i_1), \qquad i_3 = f(i_2), \qquad i_4 = f(i_3), \qquad \ldots . \tag{1}$$

- In
  - The above
    - ▹ Sequence 1:
      - i_1 is the basis,
      - i_2 was generated from i_1 by f,
      - i_3 from i_2 by f,

        $\vdots$

Then we see that,

- There
  - Is:
    - ▹ *Nothing*

in

- Between
  - All
    - ▹ These

– Elements.

- And so if:
  - The sequence 1,
    - ▷ Is:
      - – The *x-axis*

then

- The points
  - On:
    - ▷ The *x-axis*
      - – Will be:

$$(0,\ \ 0), \quad (1,\ \ 0), \quad (2,\ \ 0), \quad (3,\ \ 0), \quad (4,\ \ 0), \quad (5,\ \ 0), \quad \ldots$$

- And also:
  - $(0,\ \ 0)$ is the basis,
  - $(1,\ \ 0)$ was generated from $(0,\ \ 0)$,
  - $(2,\ \ 0)$ from $(1,\ \ 0)$,
  - $(3,\ \ 0)$ from $(2,\ \ 0)$,

    $\vdots$
    - ▷ Using
      - – A function: f.

- And
  - Also
    - ▷ The *x-axis*

will

- *Not*
  - Have

        - ▷ Points
            - Like: $(1.5,\ \ 0),\ \ (1.7,\ \ 0),\ \ \ldots.$

- And so
    - ○ When
        - ▷ We
            - Are

in

- The process
    - ○ Of
        - ▷ Generating:
            - $(3,\ \ 0)$ *from* $(2,\ \ 0),$

we see that,

- Only: $(3,\ \ 0)$
    - ○ Will be
        - ▷ Generated
            - After: $(2,\ \ 0),$
- But
    - ○ When: $(3,\ \ 0)$
        - ▷ Is: *generated*
            - After: $(2,\ \ 0),$

we see that,

- It does
    - ○ *Not*
        - ▷ Say
            - That:

$$\text{“}(3,\ \ 0)\text{”}$$

is

- Generated
    - Immediately
        - ▷ After:
            - $(2,\ 0)$,
- But
    - Just
        - ▷ Say:

"after $(2,\ 0)$."

Then we see that,

- There
    - Is *no*
        - ▷ An inner
            - Cartesian plane.
- And so
    - There
        - ▷ Will be:
            - *No* rules

to

- Precisely
    - Define
        - ▷ The position
            - Of: $(3,\ 0)$

"after $(2,\ 0)$."

- And

- So:

$$“(3,\ \ 0)”$$

will

- Be generated
  - In:
    - A finite space
      - After: $(2,\ \ 0)$,

such that

- That
  - Finite
    - Space

will

- Be
  - Larger
    - Than:
      - $(2,\ \ 0)$.
- And so: $(2,\ \ 0)$
  - Will
    - *Not*
      - Have

a

- Position
  - In that
    - Finite space
      - After: $(2,\ \ 0)$.

- And
    - So
        - The *exact*
            - Position

of

- All
    - Points
        - In:
            - A Cartesian plane

will

- *Not*
    - Be
        - Defined:
            - Precisely.
- And
    - So
        - It can
            - Only be

said that,

- They
    - Are present
        - In:
            - A finite space,
- And
    - They
        - Do not

- Have

a

- Precise
  - Location
    - ▹ In that:
      - Finite space.
- And so
  - They will
    - ▹ Be present:
      - Anywhere

in

- That
  - Finite
    - ▹ Space.
- And
  - So
    - ▹ The *exact*
      - Position

of

- All
  - Points
    - ▹ In:
      - A Cartesian plane

can

- Only be

- Defined:
  - Using:
    - Probability.

- And so
  - The *exact*
    - Position of:
      - A particle

in

- An orbital
  - Will
    - Be:
      - *Undefined.*

- In
  - Sub section 2.1,

we saw that,

- The size
  - Of a particle
    - Is:
      - Not *zero*,

- And
  - In
    - This
      - Sub section,

we saw that,

- Particles

- Resides
    - In:
        - Orbitals,

- And
    - Also
        - Orbitals
            - Do *not* have:

“A metric in it.”

- And
    - So
        - From
            - This,

we see that,

- The size
    - Of:
        - A particle

will

- *Not*
    - Be
        - Measurable,

- And
    - So
        - Particles

will

- Act
    - Like
        - A point
            - In space.

2.3 First exclusion principle

In

- Sub section 2.2,

we saw that,

- A Cartesian plane

is

- An ordered
    - Collection
        - Of:
            - Probabilistic spaces.
- Or an ordered
    - Collection
        - Of:
            - Orbitals.
- Also we see that,
    - Each
        - Of those:
            - Orbitals:

will

- Be
    - Associated
        - With:
            - A *tuple*.
- For
    - Example,

- ▷ The tuple:
  - $(10,\ \ 20)$

will

- Be
  - Associated
    - ▷ With
      - The orbital at: $(10,\ \ 20)$.
- And
  - So
    - ▷ All
      - Orbitals

will

- Have
  - A co-ordinate
    - ▷ Associated
      - With it.
- And so
  - Let us,
    - ▷ Consider
      - The orbitals at:

$$(0,\ \ 0) \qquad \textit{and} \qquad (1,\ \ 0).$$

Then we see that,

- If:
  - Everything
    - ▷ That
      - Pertains

to

- The orbitals
    - At: $(0, 0)$,
        - ▹ Is
            - The same

as

- That
    - Of:
        - ▹ The *one*
            - At: $(1, 0)$,

then

- The orbital
    - At: $(0, 0)$
        - ▹ Will
            - Cease

to

- Be
    - What
        - ▹ It
            - Is.
- Or
    - It
        - ▹ Will
            - Be

the

- Same
    - As
        - The
            - One at: $(1, \ 0)$.

- And
    - So
        - At
            - A time,

all

- The states
    - Of:
        - *Two*
            - Orbitals

will

- *Never*
    - Be
        - The
            - Same.

2.4 Space

In

- Sub section 2.2,

we saw that,

"*a Cartesian space*"

is

- Actually

- An ordered
  - Collection
    - Of:

“*orbitals.*”

- And also
  - All
    - Those:
      - *Orbitals*

will

- Have:

“*a position.*”

so that

- There
  - Will
    - Be:
      - A metric

in:

- The:

“*space.*”

- And
  - So
    - Let:
      - Us

see,

- Why do
    - They
        - Have:
            - A position?
- It
    - Is:
        - Because,

there

- Is
    - An attractive
        - Force:
            - Between them.
- Or
    - We see that,
        - If:
            - There

is

- *No*
    - Attractive force
        - Between:
            - Them,

then

- They
    - Will
        - *Change*:
            - Their position.

- And so
  - If:
    - A *space*
      - Has:

"*a metric*,"

then

- It
  - Will:
    - Have

an

- Attractive
  - Force
    - In:
      - It,

so that

- The points
  - (Orbitals in this case),
    - In:
      - It

will

- Be
  - Glued:
    - Together.
- But
  - If

- ▹ There
  - Is:

"*an attractive force*,"

then

- All
  - The:
    - ▹ Points

will

- Collapse
  - Into:
    - ▹ One.
- But
  - That
    - ▹ Should *not*:
      - Happen

because

- Of
  - The:
    - ▹ First exclusion principle
- And so
  - There
    - ▹ Will
      - Be:

"*a repulsive force*,"

so that

- The space
    - Will
        - *Not*:
            - Implode.

So we see that,

- If
    - There
        - Is:
            - An attractive force,

then

- There
    - Will
        - Be:
            - A repulsive force,

so that

- All
    - Points
        - In:
            - It

will

- Remain
    - Where
        - They:
            - Ought to be.

- But
    - If
        - *Two*:
            - Something

does

- *Not*
    - Have:
        - Anything

to

- Do
    - With:
        - Each
            - Other,

then

- A force
    - Cannot be
        - Established:
            - Between them.
- And
    - So
        - There:
            - Will

be:

“*something*”

between

- All
    - *Orbitals*
        - In:
            - *Space*,
- Or
    - There:
        - Will

be

- Some
    - *transfer*
        - Of:
            - *Something*

between

- All:

"*orbitals*."

- And
    - So
        - There:
            - Will

be

- Some
    - Force carriers
        - Among:
            - Orbitals.
- And

- We:
  - ▹ Call

those

- Force
  - Carriers
    - ▹ Among
      - Orbitals:

“*space-Bosons.*”

Also we see that,

- From:
  - The
    - ▹ Point: $(0,\ \ 0)$,
      - We

can

- Move
  - To:
    - ▹ The right;
      - And reach: $(1,\ \ 0)$,
- Or move
  - To:
    - ▹ The left;
      - And reach: $(-1,\ \ 0)$,
- Or move
  - Upwards;
    - ▹ And

      - Reach: $(0, \ 1)$,

- Or move
  - Downwards;
    - And
      - Reach: $(0, \ -1)$.

So we see that,

- A direction
  - Is
    - Defined:
      - At each point.
- And
  - So:
    - An inductive
      - Structure

can

- Be defined
  - Using
    - Some:
      - Adjacent points.

But we see that,

- A definition
  - Cannot
    - Be:
      - Given

unless

- That
    - Definition:
        - *Exists.*
- Or a definition
    - Cannot
        - Be:
            - Written down,

unless

- And until
    - That:
        - Definition
            - *Exists.*

Therefore

- Since
    - An inductive
        - Structure:
            - Can

be

- Defined
    - Using
        - Some:
            - Adjacent points,

we see that,

- There
    - Will:

        ▹ *Exist*
            – A definition

for

- That:
    - Inductive
        ▹ Structure.
- And
    - So
        ▹ From:
            – This,
- And
    - Since
        ▹ The universe
            – Is:

"*a closed system*,"

we see that,

- All
    - Definitions
        ▹ For
            – All:

"*inductive structures*,"

should

- Be
    - Present
        ▹ In:

- The universe.

- And
  - So
    - There:
      - Will

be

- Something
  - Equivalent
    - To:
      - All

those

- Structures
  - In
    - The:
      - Universe.
- And
  - So
    - All
      - Those:

“*equivalent things*”

can

- Be
  - Transformed
    - Into
      - Those:

"*structures.*"

- And
  - So:
    - All

those

- Structures
  - Will
    - Be:
      - Creatable.

- And
  - So
    - It:
      - Should

be

- Possible
  - For:
    - Us

to

- Distinguish
  - Between
    - All
      - Points of:

"*a structure.*"

- Exemplifying,

- When
  - We draw
    - The structure:

$$y = x + 1,$$

we

- See
  - It
    - As:
      - A straight line,

only

- Because
  - All:
    - *Orbitals*

on

- It
  - Are:
    - Marked
      - As: *on.*
- And
  - So
    - We need:
      - *Something*

to

- *Mark*
  - Point

            - ▹ As:
                - *On*,

so that

- We
    - ◦ Can
        - ▹ Create:
            - Structures.
- And
    - ◦ So
        - ▹ Let:
            - Us

call,

- Those
    - ◦ Markers:
        - ▹ Fermions.
- Also
    - ◦ Since:
        - ▹ Fermions

are

- Just
    - ◦ Used
        - ▹ To
            - Define:

"*induction*,"

we see that,

- Fermions
    - Are
        - Some:
            - *Constructs*,

such that

- There
    - Will:
        - Be

a

- Symmetry
    - Between:
        - It
            - And its opposite.
- Also since
    - Fermions
        - Are:
            - Used

to

- Construct
    - All:
        - Structures,
- And
    - Since
        - The universe
            - Is:

"a closed system,"

we see that,

- The universe
    - Should
        - ▷ Provide:
            - For

the:

"fermions,"

used

- To
    - Create
        - ▷ Structures:
            - In it.
- Or we see that,
    - If
        - ▷ We:
            - Have

a

- Pen
    - And
        - ▷ A paper,

then

- We can draw
    - *Two*:
        - ▷ Perpendicular

- Lines,

- And
  - We
    - Will:
      - Have

an:

“*xy-plane*,”

- And then
  - We
    - Can
      - Draw:

“*a straight line*,”

- And
  - Say that,
    - Its:
      - Equation

is:

$$y \quad = \quad x \ + \ 1.$$

- But
  - We see that,
    - The
      - Universe

does

- *Not*

- Have:
  - ▹ Any
    - – Such means.

- And so
  - It
    - ▹ Should:
      - – Provide

for:

"itself"

the

- Means
  - To create
    - ▹ Structures:
      - – In it.

- And so
  - From:
    - ▹ The
      - – Moment

"the universe"

is

- Termed
  - As:
    - ▹ A metric
      - – Space,

it

- Should
    - Have
        - Some:
            - Means

to

- *Construct*
    - Structures
        - In:
            - It.

- And
    - So
        - Let:
            - Us

see,

- How
    - It:
        - Provides
            - For: *itself*

"*the means.*"

to

- *Construct*
    - Structures
        - In:
            - It.

- And

- So
  - Consider:
    - A Cartesian space,

such that

- None
  - Of
    - The orbitals:
      - Have

a

- *Fermion*
  - In:
    - It.
- And
  - Also
    - Consider:
      - The orbitals

at

- The
  - Points:

$$(0,\ \ 0), \qquad (1,\ \ 0), \qquad (2,\ \ 0).$$

- In
  - Sub section 2.7,

we

- Will

- Show:
    - That,

the

- Orbital
    - At: $(1,\ 0)$
        - Can:
            - Move

to

- The
    - One
        - At:
            - $(2,\ 0)$.
- Then
    - When
        - It:
            - Happens

we see that:

"*a local induction*"

will

- Get
    - Created
        - In:
            - That direction,
- And:

"*the opposite*"

in

- The
    - Other:
        - ▹ Direction.
- And so
    - In:
        - ▹ The forward
            - Direction,

a

- Fermion
    - Will
        - ▹ Get:
            - *Created*,
- And
    - An
        - ▹ Anti-fermion

in

- The
    - Other:
        - ▹ Direction,

since

- Fermions
    - Corresponds
        - ▹ To:
            - Induction,

- And
    - Since:
        - ▹ Fermions,
            - And anti-fermions

are:

"*symmetrically opposite.*"

- But
    - Since
        - ▹ The:
            - Forces

we

- Described
    - Earlier
        - ▹ Will:
            - Bring

it

- Back to
    - Its
        - ▹ Old:
            - Position,

we see that,

- That
    - Pair:
        - ▹ Created,

will

- Immediately
    - Annihilate:
        - Each
            - Other.
- And
    - So:
        - The sum
            - Total

will

- Be: *zero*
    - Number
        - Of:
            - *Fermions.*
- And
    - So:
        - *No*
            - Structure

will

- Be:

"*creatable.*"

- And so
    - From:
        - The
            - Moment

when:

“*the universe*”

is

- Termed
  - As:
    - ▹ A metric
      - Space

there

- Should
  - Be
    - ▹ Enough:
      - *Fermions*

in

- It
  - To
    - ▹ *Construct*:
      - Structures.
- And
  - So
    - ▹ Let:
      - Us

see,

- How
  - It
    - ▹ Got some:
      - Fermions in it.

- Then
    - We see that,
        - ▹ A metric
            - Space

can

- Be
    - Defined
        - ▹ Using:
            - *Induction.*

- And
    - So:
        - ▹ A metric
            - Space

can

- Be:
    - Constructed
        - ▹ Using:
            - Induction.

- Also
    - Since:
        - ▹ A metric
            - Space

is

- An ordered
    - Collection
        - ▹ Of:

– Orbitals,

we see that,

- When
  - It
    - ▹ Is: *constructed*
      - – Inductively,

then

- Orbitals
  - Will be
    - ▹ Created:
      - – Inductively.
- But
  - Since
    - ▹ There:
      - – Should

be

- Enough
  - Fermions
    - ▹ In:
      - – The universe

from

- The moment
  - It
    - ▹ Is:
      - – Termed

as:

"a metric space,"

we see that,

- Enough
    - Fermions
        - To:
            - Construct

all

- Structures
    - Should
        - Also be:
            - Created

just

- Before
    - It
        - Will be:
            - Termed

as:

"a metric space."

- And so
    - It is
        - *Not*:
            - Enough

that

- We create

- Those
    - *Orbitals*
        - For:

"*the space*,"

- But
    - Enough
        - Fermions:
            - Should

also

- Be
    - Created
        - Along with:
            - Orbitals.
- And so
    - We
        - Introduce:
            - Movons.
- The:
    - *Two*
        - Types

of

- Movons
    - Are:
        - Tions
            - And nions.

- Tion
    - Causes
        - The:
            - Next

in:

"an inductive process,"

- To
    - Be:

"created,"

- And
    - Nions
        - Causes:
            - The construction

of:

- A metric
    - Between
        - *Two*:
            - Something.
- Then since
    - Every
        - Induction
            - Has:

"a basis,"

assume that,

- We
    - Have:
        - A seed

which

- Will
    - Act
        - As:
            - The *basis*

for

- Creating:
    - The
        - Space.
- And
    - So
        - When:
            - Tions

act

- On
    - That:
        - Seed,

we see that,

- Orbitals
    - Will
        - Be
            - Created:

“*inductively*.”

- But
  - When
    - ▹ Tions:
      - Creates

the

- Next
  - In:
    - ▹ A sequence,

we see that,

- Only
  - The next
    - ▹ Will
      - Be:

“*created*,”

- And
  - *No* metric
    - ▹ Will
      - Be:

“*created*,”

- And
  - It
    - ▹ Will:
      - Be

that,

- *Two*
    - Something:
        - *Exists*,

without

- Any
    - Definition
        - For:
            - A metric.
- And
    - So
        - For:
            - The sake

of

- The
    - Elements:
        - Generated

by

- Tions
    - To
        - Form:
            - A metric space,

we see that,

- We
    - Need:

- ▹ Nions.

- And
  - So:
    - ▹ Nions

will

- Act
  - Along
    - ▹ With:
      - Tions,

so that

- Those
  - Things:
    - ▹ Created

will

- Form:
  - A metric
    - ▹ Space.
- Then
  - When:
    - ▹ Nions

acts

- Along
  - With:
    - ▹ Tions,

so

- As
    - To
        - Create:
            - A metric space,

we see that,

- The
    - First
        - Exclusion
            - Principle

will

- Be:

“*applicable*”

for

- Those
    - Things:
        - Created.
- But
    - When
        - It
            - Is:

“*applicable*”

we see that,

- Even though,

        - All
            - Those:
                - Things

which

- Where:

"*created*,"

now

- Resides
    - At
        - The same:
            - Place

where

- That
    - Seed:
        - Is,

we see that,

- Those things
    - Created
        - Cannot:
            - Stay there,
- And
    - So:
        - They

will

- Move

- To
  - Form:
    - A metric.

- And
  - So:

"*a local induction*"

- Will
  - Be:
    - Created.
- And
  - So:
    - A fermion

will

- Appear
  - In
    - All
      - Those:

"*orbitals.*"

- And
  - So:
    - Initially,
      - There

will

- Be

- One
  - ▹ Massive:
    - – Lump.

- Then we see that,
  - If
    - ▹ We:
      - – Have

a

- Pen
  - And
    - ▹ A paper,

we

- Can
  - Draw:
    - ▹ A figure,
- And
  - Then
    - ▹ Rub:
      - – It,
- And
  - Draw
    - ▹ Another,
- And
  - Say
    - ▹ That,

the

- Old figure
    - Has
        - Been:
            - Transformed

into

- The
    - New:
        - *One.*

So we see that,

- This
    - Concept
        - Is:
            - *Definable*

in

- All
    - Metric:
        - Spaces.
- And
    - So
        - Should
            - Be:

“*possible*”

for

- Us

- To:
  - Reshaped,
  - Or break down,
  - Or extended,
  - Or move
    - All *structures*

in:

"*the universe.*"

But we see that,

- Since
  - The universe
    - Is:
      - A closed system,

if

- It
  - Is:
    - To

have

- Such
  - A concept
    - In:
      - It,

then

- It
  - Should
    - Provide

- For: *itself*

"*the means*"

to

- Establish
  - This
    - Concept:
      - In it.

So we see that,

- There
  - Should
    - Be:
      - Many structures

in:

"*the universe*,"

- And
  - They
    - Should:
      - Interact

with:

"*each other*,"

so that

- The
  - Above
    - Mentioned:
      - Concept

could

- Be:

"*established.*"

- And
    - So
        - We
            - Need:

"*gravity.*"

- But
    - We
        - Will:
            - Talk

more

- On
    - It:
        - Later.

We saw that,

- Initially,
    - The:
        - Universe

was

- One
    - Massive:
        - Lump,

- And so
    - All:
        - Orbitals
            - In it

had

- A fermion
    - In
        - It.
- Then we see that,
    - It
        - Will:
            - Impossible

to

- Distinguish
    - The points
        - Of:
            - A structure.
- And
    - So
        - It
            - Will be:

"*impossible*"

- To
    - Construct:

"*structures.*"

- And so
    - We see that,
        - Some:
            - Orbitals

with

- *No*
    - Fermions
        - In:
            - It

should

- Be:

“*created.*”

so that

- It
    - Will
        - Be:
            - Possible

for

- Us
    - To:
        - Distinguish

the

- Points
    - Of
        - All:

- Structures.

- Also
    - Since
        - Those:
            - Fermions

were

- Created
    - To:
        - Realize

all

- Possible
    - Definitions,
        - That
            - Can be:

“*realized*”

we see that,

- Fermions
    - Should
        - Be:
            - Scattered

evenly

- In
    - The
        - Whole:
            - Space

after

- Empty
  - Orbitals
    - Have
      - Been:

"*created.*"

- But we see that,
  - If
    - New orbitals
      - Are:

"*constructed inductively*,"

then

- The same
  - Process
    - Will:
      - Continue,
- And
  - That
    - Massive:
      - Lump

will

- Grow
  - Yet
    - Bigger.
- And so that

- Inductive
    - Process
        - Should:

"*halt*,"

after

- Enough
    - Fermions
        - Have
            - Been:

"*created*,"

- And
    - Orbitals
        - Should be:
            - Created:

"*non-inductively*,"

- And
    - All
        - The fermions:
            - Should

be

- Scattered
    - In:
        - The ensuing
            - Space.
- Also

- This:
  - Non-inductive
    - Creation

of

- Orbitals
  - Is:
    - Definable,

since

- Orbitals
  - Are:
    - Creatable,
- And
  - Since
    - It
      - Is:

"*a finite process*,"

- Also since
  - Fermions
    - Where:
      - Created

when

- Orbitals
  - Where
    - Created:
      - Inductively,

we see that,

- When
  - orbitals
    - ▹ Are
      - Created:

"*non-inductively*,"

then

- *No*
  - Fermion
    - ▹ Will
      - Be:

"*created*."

- Also since
  - Nions
    - ▹ Creates:
      - A metric,

we see that,

- They
  - Can
    - ▹ Change:
      - The distance

between

- Fermions
  - In
    - ▹ That:

- Massive lump.

- And
    - So
        - It:
            - Will

be

- Possible
    - For:
        - Nions

to

- Create
    - A finite
        - Number of
            - Orbitals:

"*non-inductively*."

- And
    - So
        - It:
            - Will

be

- Possible
    - For:
        - Nions

to

- Act

- On
    - That:
      - Massive lump.
- And
  - When it
    - Does:
      - So,

we see that,

- New
  - Orbitals
    - Will be
      - Created:

"*non-inductively*,"

- And
  - So
    - All:
      - Fermions

will

- Be:
  - Separated

by

- Some
  - Finite
    - Number
      - Of:

“*orbitals.*”

- And
    - So
        - By:
            - That,

we see that,

- In
    - The:
        - Beginning,

there

- Will
    - Be:
        - A big
            - Explosion.
- And then
    - After
        - That:
            - Explosion,

there

- Will be
    - *No* structures
        - In:
            - The universe.
- And
    - Then:

- ▹ We

can

- Bring
  - Those
    - ▹ Fermions:
      - Together,
- And
  - It:
    - ▹ Would

be

- Possible
  - To
    - ▹ Construct:
      - Structures.

Also we see that,

- If
  - All
    - ▹ The:
      - Points

in

- The space
  - Are:
    - ▹ Marked
      - As: *on*,

then

- It
    - Will:
        - Be

like

- *No* point
    - Is:
        - Marked
            - As: *on.*
- And
    - So
        - There:
            - Will

be

- An
    - Upper
        - Bound:
            - For

the

- Number
    - Of structures
        - In:
            - The universe,

which

- Will
    - Be:

            - Proportional

to

- The
  - Volume
    - Of:
      - The universe.

- And
  - Similarly,
    - There:
      - Will

be

- A lower
  - Bound
    - For:
      - The number

of:

structures.

- And
  - So
    - The:
      - Number

of

- Fermions
  - In
    - The:

– Universe

will

- Be
  - Proportional:
    - To

the

- Volume
  - Of
    - The:
      - Universe.
- In
  - Section 5,

we

- Will
  - Give
    - The:
      - Number

of

- Structures
  - That
    - Are:
      - There

in:

"*the universe.*"

- Also

    - Since
        - All:
            - Structures

are

- Defined
    - Using:
        - Induction,

in

- All:
    - Structures,

we see that,

- There
    - Will:
        - Be

a

- Relation
    - Between
        - Adjacent:
            - Fermions.
- And so
    - If: L
        - Is:
            - A structure.

then

- There

    - Will be:
        - Some
            - Rules

in

- The definition
    - Of:
        - That:
            - Structure.
- Then
    - Since
        - That definition:
            - *Exists*

only

- Because
    - Of:
        - Those
            - Rules,

we see that,

- Those
    - Rules
        - Will:
            - Enforce

the

- Stability
    - Of
        - That:

            - *Definition.*

- And
    - So
        - From:
            - This,
- And
    - Since
        - The structure:
            - *Exists*

only

- Because
    - Of
        - That:
            - *Definition*,

we see that,

- Structures
    - Will
        - Be:
            - Stable

because

- Of
    - Those:
        - *Rules.*
- And so
    - Fermions

        - Of:
            - A structure

will

- Stick
    - Together
        - To form:
            - That structure.
- And
    - So
        - Let:
            - Us

see,

- Why do
    - They
        - Stick
            - Together?
- It
    - Is
        - Because,

there

- Is
    - An attractive
        - Force:
            - Between them,

since

- If
    - *Not*,

then

- They
    - Will
        - ▹ *Fly*
            - Away.
- But
    - If
        - ▹ There:
            - Is

only

- An attractive
    - Force
        - ▹ In:
            - A structure,

then

- It will
    - Collapse
        - ▹ Into:
            - A single point.
- And
    - So
        - ▹ In:
            - Order

to

- Counter
    - Act:
        - ▹ The attractive
            - Force,

there

- Will
    - Be:
        - ▹ A repulsive
            - Force

in

- The inside
    - Of:
        - ▹ The
            - Structure,

so that

- It
    - Will
        - ▹ *Not*:
            - Implode.
- And
    - So
        - ▹ In:
            - Order

to

- Establish
  - Forces
    - Inside:
      - A structure,

we see that,

- Fermions
  - In:
    - A structure

will

- Send
  - Force
    - Mediating:
      - Particles

to

- Other:
  - Fermions,
- And
  - Those
    - Force mediating
      - Particles sent

will

- Get
  - Absorbed
    - By:
      - Other fermions,

so that

- These
    - Forces
        - Could be:
            - Established.
- Or we see that,
    - If
        - Those:
            - Mediating particles

are

- *Not*:
    - Absorbed,

then

- Those
    - Forces
        - Could *not*:
            - Be:

"*established*,"

- And
    - The structure
        - Will:
            - Be unstable.
- And
    - So
        - Let:

- Us

call,

- Those
  - Force
    - Mediating
      - Particles:

"*bosons*."

- And
  - So
    - Fermions:
      - By nature

will

- Send
  - Bosons
    - To:
      - Other fermions,

so that

- Structures
  - Will
    - Be:
      - Stable.

Then we see that,

- Since
  - Fermions can
    - Emit:

- Bosons,

we see that,

- Fermions
  - Can be
    - Converted
      - Into:

"*bosons.*"

- Also since
  - Bosons
    - Sent:
      - By a fermion

can

- Be
  - Absorbed
    - By:
      - Other fermions,

we see that,

- Bosons
  - Can be
    - Converted
      - Into:

"*fermions.*"

- And
  - So
    - We see that:

“*mass and energy*

are

mutually convertible.”

So assume that,

- A fermion
    - Has
        - ▹ Absorbed:
            - A boson.
- Then
    - We see that,
        - ▹ There
            - Will be:

“*a change.*”

- Or
    - If
        - ▹ There
            - Is:

“*no change,*”

- We
    - Say:

“*nothing happened.*”

Or we see that,

- If
    - A fermion,

        - After
          - Absorbing:

"*a boson*,"

is

- The
    - *Same*
        - As:
          - Before,

then

- We say that,
    - Nothing
        - Has
          - Happened.
- And
    - So
        - We:
          - Will

say,

- *No*
    - Boson:
        - Was
          - Absorbed.
- And
    - So:
        - A fermion

will

- Be different
    - After:
        - ▹ Absorbing
            - A boson.
- Also if:
    - A fermion
        - ▹ After
            - Absorbing:

“a boson,”

is

- *Not*
    - In some way
        - ▹ Greater than
            - Before,

then

- There
    - Will
        - ▹ Be
            - *No* point

in

- Saying
    - That:

“a fermion”

after

- Absorbing
    - A boson
        - Has:
            - More things.
- And so
    - There
        - Will
            - Be:

"more things,"

in

- A fermion
    - After:
        - Absorbing
            - A boson.
- But
    - Even
        - Though,

there

- Are more
    - Things
        - In
            - It,

we see that,

- The
    - Area

    - ▹ In:
        - Which

all

- These
    - Things:
        - ▹ Resides,

will

- Still
    - Be:
        - ▹ The
            - *Same.*
- And
    - So
        - ▹ There
            - Will be:

"*an upper bound*,"

for

- The
    - Mass
        - ▹ Of:
            - A particle.
- And
    - Also
        - ▹ That:
            - Upper bound

will

- *Not*
  - Be:
    - ▷ *Infinite*,

since

- Induction
  - Is:
    - ▷ *Not*

used

- To
  - Define:
    - ▷ It.
- And similarly,
  - There
    - ▷ Will
      - Be:

"*a lower bound*,"

for

- The
  - Mass
    - ▷ Of:
      - A particle.
- And
  - Also
    - ▷ That:

- Lower bound

will

- *Not*
  - Be:
    - *Zero*,

since

- A fermion
  - Cannot
    - Be:
      - Defined

as:

"*nothing*."

- And
  - So
    - From:
      - These,

we see that,

- As
  - The mass
    - Of
      - A particle:

"*increases*,"

it

- Will

- Behave
    - More
        - Like:

"matter,"

- And as
    - The mass
        - Of
            - A particle:

"decreases,"

it

- Will
    - Behave
        - More
            - Like:

"a wave."

- And
    - Also
        - From:
            - This,

we see that,

- Bosons
    - Are
        - A transformation:
            - Of a part

of:

"*fermions.*"

- Also
    - Since:
        - Fermions

can

- Be:

"*moved,*"

from

- One
    - Place
        - To:
            - Another,

we see that,

- Fermions
    - Will
        - *Not*
            - Be

a

- State
    - Of:
        - An
            - Orbital,
- But
    - Some

- ▹ Real:
  - Things

that

- Can
  - Be:
    - ▹ Placed in
      - In:

"*an orbital*,"

- Or moved
  - From:
    - ▹ One orbital
      - To another.
- Also
  - Since:
    - ▹ Fermions

are

- Created
  - When:
    - ▹ Orbitals
      - Move,

we see that,

- Fermions
  - Are:
    - ▹ Variants
      - Of orbitals.

- And so bosons
    - Can pass
        - ▹ Through:
            - Orbitals,

since

- Bosons
    - Are
        - ▹ A transformation:
            - Of a part

of:

“*fermions*.”

- But bosons
    - Cannot:
        - ▹ Interact
            - With:

“*orbitals*,”

since

- If
    - They
        - ▹ Do
            - So;

then

- Bosons
    - Will be:
        - ▹ Absorbed

        - By orbitals,

- And

  - So

    - Bosons:
      - Will

be

- Converted

  - Into:

    - Orbitals,

- And

  - There

    - Will:
      - Be

a

- Violation

  - Of:

    - The
      - First exclusion principle.

- Also

  - Since:

    - Bosons

are

- Emitted

  - By:

    - Fermions,

just

- For
    - The:
        - Sake

of

- Being
    - Absorbed by
        - Other:
            - Fermions,

we see that,

- The
    - Sum total
        - Of:
            - Bosons

in

- In
    - This universe
        - Will
            - Be:

"*a constant*,"

- Also since
    - A fermion
        - Can emit:
            - A boson,

we see that,

- All
    - The mass
        - In:
            - A fermion

can

- Be
    - Emitted
        - As:
            - Bosons,
- And
    - That:
        - Fermion

will

- Cease
    - To:
        - *exist.*
- But
    - We
        - Will:
            - Deal

with

- This
    - Problem
        - In:
            - Sub section 2.14.

So we see that,

- If
    - We:
        - ▹ Assume

that,

- We
    - Do *not*
        - ▹ Have:
            - – Movons,

then

- There
    - Will
        - ▹ Be:
            - – A seed,
- And
    - *Nothing*
        - ▹ Will act:
            - – On it,
- And there
    - Will be:
        - ▹ *No*
            - – Space.

So we see that,

- We
    - Need:

      - ▹ Tions.

- And
  - Also
    - ▹ From:
      - What

we

- Saw
  - Earlier,

we see that,

- We
  - Need:
    - ▹ Nions,
- And
  - Also:
    - ▹ Nions

can

- Act
  - Without:
    - ▹ Tions.
- Also
  - Since
    - ▹ Nions:
      - Causes

the

- Construction

- Of:
  - A metric,

- And
  - Since
    - Space-bosons
      - Emerge

only

- Because
  - Of:
    - A metric,

we see that,

- Nions
  - Causes
    - The production
      - Of:

"*space-bosons*."

- Also since
  - Tions
    - Can
      - Cause:

"*a change*,"

- And
  - Since:
    - A change

can

- Occur
    - Without
        - ▹ Creating:
            - A metric,

we see that,

- Tions
    - Can act
        - ▹ Without:
            - Nions.

- And so:
    - Tions
        - ▹ And
            - Nions

can

- Act:
    - Together
        - ▹ Or
            - Alone.

2.5 Second exclusion principle

Assume

- That
    - These
        - ▹ Points:

$$(0,\ 1),$$

$$(-1,\ 0), \qquad (0,\ 0), \qquad (1,\ 0),$$

$$(0, \quad -1).$$

- Belongs
  - To:
    - A structure.
- Then we see that,
  - In:
    - All these
      - Points

there

- Will be:
  - A direction
    - Along
      - Each axis.
- And
  - So
    - From
      - This,
- And since fermions
  - Are used
    - To: *construct*
      - Structures,
- And since
  - Equal
  - And opposite
    - Directions:
      - Cancel each other,

we see that,

- In
  - All:
    - Fermions,

there

- Will be
  - Exactly:
    - *One* direction
      - For each axis.
- And so
  - For each
    - Fermion:
      - In a structure,

there

- Will
  - Be:
    - A position
      - And n directions,

where

- n is
  - The number
    - Of dimensions:
      - In space.
- And
  - So

- ▹ If:
  - We change

the

- Direction
  - Of:
    - ▹ A fermion,

then

- It
  - Will
    - ▹ Be:
      - Equivalent

to

- Changing
  - Its:
    - ▹ State.
- But
  - When
    - ▹ We:
      - Consider

the

- Fermions
  - At
    - ▹ The
      - Points:

$$(1,\ 0),\qquad (2,\ 0),\qquad (3,\ 0),$$

we see that,

- $(3,\ 0)$
    - Can be
        - Reached
            - From: $(2,\ 0)$,

by

- Moving
    - One step
        - To:
            - The right.
- And
    - Similarly,
        - $(1,\ 0)$

can

- Be
    - Reached
        - From:
            - $(2,\ 0)$,

by

- Moving
    - One step
        - To:
            - The left.
- And
    - So we see that,

- ▹ There:
  - Should

be

- *Two*
  - Directions
    - ▹ For:
      - An axis.
- And
  - So
    - ▹ All:
      - Points

of

- A structure
  - Will
    - ▹ Have:
      - $2n$ directions.
- And
  - So
    - ▹ From
      - This,
- And
  - Since
    - ▹ All:
      - Fermions

can

- Have only

- *One* direction
  - For:
    - Each axis,

we see that,

- All orbitals
  - Can
    - Contain:
      - *Two* fermions.
- But
  - If:
    - There

are

- More than
  - *Two* fermions
    - In:
      - An orbital,

then

- There
  - Will be:
    - More than
      - $2n$ directions.
- And
  - So
    - There:
      - Cannot

be

- More than
    - *Two* fermions
        - In:
            - An *orbital.*
- Also
    - Since
        - There

are

- Only
    - $2n$ directions
        - At:
            - All *points*,
- And
    - Since:
        - *Two*
            - Fermions

in

- An orbital
    - Will always
        - Produce:
            - $2n$ directions,

we see that,

- Directions
    - Of:
        - *Two*
            - Fermions

in

- An
    - *Orbital*

will

- Always
    - Be:
        - *Different.*
- But when
    - We consider
        - Fermions
            - At the points:

$$(0,\ \ 0), \qquad (1,\ \ 0),$$

we see that,

- If
    - The directions
        - Of those:
            - *Two* fermions

in

- Those
    - *Two* orbitals
        - Are:
            - Are same,

then

- Their

- Positions
  - Will be:
    - *Different.*

- And
  - So
    - At:
      - A time,

all

- Quantum states

of

- *Two* fermions
  - Will *never*
    - Be:
      - The same.

- Also
  - Since:
    - The
      - Rules

in

- The
  - Definition
    - Of:
      - A structure,

- And
  - Since
    - Bosons

- Sent

by

- The
  - Fermions
    - ▹ In:
      - A structure,

are

- Used
  - To:
    - ▹ Stabilize
      - The structure,

we see that,

- Bosons
  - And
    - ▹ Those
      - Rules

will

- Be:
  - Related.
- And
  - So
    - ▹ Those
      - Bosons

will

- Also be

- A part
  - Of:
    - The inductive definition.

- And so
  - Bosons
    - Will
      - Also

have

- Directions
  - For:
    - Each
      - Axis.

- But
  - Since
    - Bosons
      - Are *not*

the

- Points
  - Of:
    - The
      - Structure,

we see that,

- Quantum states
  - Of:
    - *Two*
      - Bosons

can

- Be:
    - The
        - Same.
- In
    - Sub section 2.4

we saw that,

- Attractive
    - And repulsive
        - Forces
            - Arises

just

- Because
    - Of:
        - A metric,
- And
    - In
        - Sub section 2.2,

we saw that,

- There is:
    - *No* metric
        - In:
            - An orbital.

So we see that,

- There

- Will
  - Be:
    - *No* forces

between

- *Two*
  - Fermions
    - In:
      - An *orbital.*

2.6 Velocity

Consider

- A finite
  - System.
- Then since
  - It
    - Is:
      - Finite,

we see that,

- It
  - Will:
    - Never
      - Change.
- But if
  - We add:
    - An inductive process
      - Into it,

we

- Will
    - Start
        - Seeing:
            - Changes.
- And so
    - An action
        - For:
            - *Induction*

will

- Create:
    - A change.
- But
    - If
        - We remove:
            - That *induction*

which

- We
    - Added:
        - Into
            - It,

then

- We
    - Will:
        - *No*

- Longer

see

- Any
    - More:
        - *Changes.*
- And so
    - We see that,
        - Only:
            - *Induction*

can

- Cause:
    - A change.
- And
    - So
        - Assume
            - That,

an

- Action
    - For:
        - An *induction*

has

- Been
    - Applied:
        - On

a

- Fermion,
  - Or
    - A structure.
- Then
  - Since:
    - Such

an

- Action
  - Causes:
    - A change,
- And since
  - The number
    - Of things:
      - In the system

is

- *Not*
  - Going
    - To:
      - Change,
- And
  - Since
    - In
      - Sub section 2.4,

we saw that,

- Fermions

        - And structures
            - Can:
                - Move,

we see that,

- When
    - That
        - Action:
            - On

that

- Fermion,
    - Or
        - Structure
            - Causes:

"a change,"

we see that,

- That
    - Change:
        - Made

will

- Be to
    - Change
        - Their:
            - Position.
- And
    - So

- ▹ An action
  - For: *induction*

will

- Create:

"velocity."

We saw that,

- When
  - An orbital
    - ▹ Moves:
      - To the right,

a

- Fermion
  - Will get
    - ▹ Created:
      - In that direction,
- And
  - An anti-fermion
    - ▹ In:
      - The other direction.

So we see that,

- If
  - Such a thing:
    - ▹ Will *not*
      - Happen,

then

- There
    - Will be:
        - *No*
            - Pair creation.

Or we see that,

- When
    - There is:
        - *No*
            - Such motion,

then

- There
    - Will be:
        - *No*
            - Mass,
- And when
    - There
        - Is:
            - Such a motion,

then

- There
    - Will be:
        - Mass
            - For a while.
- And
    - So
        - From

- This,

we see that,

- Mass of:
  - A fermion
    - And velocity of:
      - Orbital motion

will

- Be related
  - To:
    - Each
      - Other.
- Also
  - In
    - This
      - Case,

since

- There
  - Cannot be:
    - Negative mass
      - For fermions,

we see that,

- When orbitals
  - Moves
    - With:
      - A greater velocity,

the

- Corresponding
    - Fermion
        - ▹ Will be:
            - Different,
- And
    - So
        - ▹ The corresponding:
            - Fermion

will

- Be
    - More
        - ▹ Massive.
- And so velocity
    - Of orbital motion
        - ▹ And mass
            - Of a fermion

will

- Be
    - Proportional
        - ▹ To:
            - Each other.
- And
    - So
        - ▹ When

an

- Orbital
    - Moves
        - To:
            - The right,

we see that,

- The
    - Corresponding:
        - Fermion
            - Will

be

- Defined
    - In:
        - The
            - Orbital,
- And so
    - Velocity
        - Of:
            - Orbital motion
    - And
        - Velocity
            - Of a fermion

will

- Be
    - Proportional
        - To:

- Each other.

- And so mass:
  - Of a fermion
    - And
      - Its velocity

will

- Be
  - Proportional
    - To:
      - Each other.

2.7 Uncertainty principle

Consider

- An inductive sequence
  - From
    - The points:
      - A *to* B.

- Then
  - Since
    - It:
      - Is

an

- Inductive
  - Sequence,

we see that,

- There

- ○ Will be:
  - ▹ Some rule
    - – To define it.

- Also
  - ○ If:
    - ▹ There

are:

- Some
  - ○ Conditions
    - ▹ To apply
      - – Those rules,

then

- Those:
  - ○ Conditions
    - ▹ Will:
      - – Also

be

- A part
  - ○ Of:
    - ▹ Those
      - – Rules.
- And
  - ○ So
    - ▹ There

will

- Be:
    - *No*
        - Rules

for

- The
    - Rules
        - Themselves.
- And
    - So
        - At:
            - The microscopic level,

there

- Will
    - Be:
        - *Nothing*

that

- Can
    - Establish
        - Things:
            - Precisely

with

- Respect
    - To:
        - The
            - Underlying space.

- And
    - So
        - If we:
            - Divide

that

- Sequence
    - Into:
        - Tiny
            - Intervals,

then

- There
    - Will be:
        - *No* rules
            - In it

to

- Make
    - Things:
        - Precise.
- And
    - So
        - There
            - Will

be

- Randomness
    - In

- ▹ Those:
  - Intervals

with

- Respect
  - To:
    - ▹ The
      - Underlying space.
- But if:
  - We
    - ▹ Expand:
      - Those intervals,

then

- We
  - Can
    - ▹ Do it:
      - Only

by

- Applying
  - The rules
    - ▹ Of:
      - The sequence

relative

- To:
  - The
    - ▹ Underlying space.

- And so
  - When
    - We:
      - Do it,

we see that,

- The
  - Randomness
    - Will:
      - Disappear,
- And
  - An order
    - Will:
      - Appear.
- And
  - So
    - There:
      - Will

be

- Uncertainty
  - At:
    - The microscopic
      - Level,
- And
  - Order
    - At:
      - The macroscopic level.

- And
    - So
        - ▹ When:
            - The motion

of

- A particle
    - Is:
        - ▹ Defined
            - By: *induction*,

we see that,

- At:
    - The
        - ▹ Microscopic
            - Level,

there

- Will be:
    - Some *uncertainty*
        - ▹ In:
            - Its velocity.
- But
    - At:
        - ▹ The macroscopic
            - Level,

we

- Will *not*

    - See
        - Any:
            - Randomness.

- And
    - Similarly,
        - If:
            - A particle

is

- *Not*
    - A part
        - Of:
            - A structure,

then

- There
    - Will
        - Be:
            - *Nothing*

to

- Precisely
    - Define:
        - Its
            - Position.
- And
    - So
        - There
            - Will

be

- Uncertainty
  - In
    - Its:
      - Position.
- Or we see that,
  - Since:
    - A finite
      - Number

of

- Orbitals
  - Can be:
    - Defined
      - Without induction,

we see that,

- If:
  - We
    - Say
      - That,

a

- Particle
  - Is
    - Present
      - In:

"a finite metric space,"

then

- That
    - Particle:
        - Can
            - And will

be

- Present:
    - Anywhere

in

- That:
    - Finite
        - Metric space.
- In
    - Section 4,

we

- Will
    - Give:
        - An
            - Upper bound

for

- The size
    - Of:
        - This finite
            - Metric space.
- But

- If:
  - We
    - Say

that,

- A particle
  - Can be
    - Any where:
      - In:

"an infinite space,"

then

- In effect,
  - We
    - Would have:
      - Defined

some

- Rules
  - For:
    - An infinite
      - Number of:

"positions."

- And
  - So
    - By
      - That,

the

- Position
    - Of:
        - ▷ The particle
            - – Will become:

"precise."

- Also since
    - A particle
        - ▷ Is:
            - – A single entity,

we see that,

- All its
    - Properties
        - ▷ Will be:
            - – Related.
- But
    - Since
        - ▷ There

is

- *No*
    - Induction
        - ▷ In:
            - – A particle,

we see that,

- When
    - There

- ▹ Is:
  - A change

in

- One
  - Of
    - ▹ Those:
      - Properties,

then

- There
  - Will be:
    - ▹ *No*
      - Rules

to

- Precisely
  - Define:
    - ▹ How
      - That:

"change"

will

- Be reflected
  - In:
    - ▹ The other
      - Properties.
- And so
  - We

        - ▹ Cannot:
            - Predict,

how

- That
    - Change
        - ▹ Will

be

- Reflected
    - In
        - ▹ The other:
            - Properties.
- And
    - So
        - ▹ The full
            - Set

of

- States
    - Of:
        - ▹ A particle

can

- Only be
    - Defined
        - ▹ Using:
            - *Probability*.
- And

- Also
    - From
        - These,

we see that,

- Orbitals
    - Will:
        - Randomly
            - Move

to

- The left
    - Or to the right
        - Or to the top
            - Or to the bottom.
- And also
    - The velocity
        - Of:
            - That motion

will

- Be
    - A random value
        - From:
            - A finite range.

2.8 Superposition

In

- Sub section 2.5,

we saw that,

- Two particles
    - Can reside
        - In:
            - An orbital,
- And that
    - There
        - Will be:
            - *No* forces

between

- *Two*
    - Particles
        - In:
            - An orbital.
- And so
    - If:
        - *Two*
            - Particles

can

- Exist

at

- The same

- Place (informally)
  - In:
    - An orbital,

then

- They will
  - Interact
    - With:
      - Each other.
- And so
  - If
  - And when
    - *Two* fermions:
      - Interact,

their

- Vector properties
  - Will:
    - Add up
      - Or substract.
- And so when
  - Particles:
    - Co-exists
      - And interact,

we see that,

- They
  - Will *not*
    - Destroy:

        - Each other,

- But there
    - Will be:
        - ▹ A local
            - Cancelation.

- And so
    - If we try
        - ▹ To measure:
            - A particular property,

then

- That
    - Property
        - ▹ Will:
            - Single out.

- Also
    - Since:
        - ▹ Interacting
            - Particles

will

- *Not*
    - Destroy:
        - ▹ Each
            - Other,

we see that,

- *Two*

- Interacting:
  - Particles

can

- *Stop*
  - Interacting,
    - And move
      - Away.
- In
  - Sub section 2.7,

we see that,

- A free particle
  - Can:
    - Randomly
      - Be

at

- Any point
  - Of:
    - A finite
      - Metric space.
- But
  - Since
    - That:
      - Finite space

is

- A space,

we see that,

- It can
    - Contain:
        - *Two*
            - Particles.
- Then
    - Since
        - Those:
            - *Two* particles

can

- Be
    - Anywhere
        - In:
            - That space,

we see that,

- Those:
    - *Two*
        - Particles

can

- Be at
    - The same place;
        - At
            - The same time.
- And so
    - They both

- Can
- Or will:
  - Interact,

- Or
  - Since
    - Those:
      - Particles

are

- Present
  - In:
    - A probabilistic
      - Space,

we see that,

- There
  - Will be:
    - *No* rules
      - For induction.
- And
  - So
    - The
      - Second exclusion principle

will

- *Not*
  - Be:
    - Applicable.
- And so

- They both
    - Will:
        - Interact.

- Also
    - We
        - Can
            - Give

a

- Description
    - The way
        - We did:
            - Earlier.

2.9 Particle copies

Consider

- The
    - Inductive
        - Sequence:

$$i_1, \quad i_2 = f(i_1), \quad i_3 = f(i_2), \quad i_4 = f(i_3), \quad \ldots. \tag{2}$$

- Then
    - In:
        - The above
            - Sequence 2,

we see that,

- There
    - Is:

- ▹ At least
  - One: f

to

- *Generate*
  - The:
    - ▹ *Elements*,
- But we see that,
  - The number of: f
    - ▹ Used to:
      - *Generate*

that

- *Sequence*
  - Is *not*
    - ▹ Defined:
      - By induction.
- And
  - So
    - ▹ In:
      - Theory,

the

- System:
  - Can
    - ▹ Have

a

- Finite constant

- Number
    - ▷ Of copies:
        - – Of the same: f.

- And so
    - The number
        - ▷ Of: f
            - – In it,

will

- Be an integer
    - Greater
        - ▷ Than:
            - – *Zero*,
    - And less than
        - ▷ Some:
            - – Finite integer.

- Or since
    - The rules
        - ▷ Of:
            - – The sequence 2

does

- *Not*
    - Dictate:
        - ▷ How many
            - – Copies of: f

are

- To

- Be:
  - ▹ There,

we see that,

- At
  - Anytime,
    - ▹ The number
      - Of: f

can

- Be
  - A random value
    - ▹ From:
      - A finite range.
- And
  - So
    - ▹ Assume

that,

- The number
  - Of: f
    - ▹ In:
      - The sequence 2,

is

- Is
  - Equal
    - ▹ To:
      - Say, *ten*

- But
  - We see that,
    - ▹ At:
      - The same time,

all

- These:
  - *Ten* f
    - ▹ Will always be:
      - Equivalent,
      - Or the same,

since

- The rules
  - Of:
    - ▹ The sequence 2
      - Dictates

that

- The: f
  - Used
    - ▹ To:
      - Generate it

should

- Be
  - Such and such
    - ▹ And
      - So and so.
- In

    - Sub section 2.1,

we saw that,

- If
    - There
        - Are:
            - *No* rules

in

- A part
    - Of:
        - A system,

then

- That
    - Part
        - Of:
            - The system

will

- Randomly
    - Take:
        - One

of

- The
    - Allowed
        - States.
- And
    - So

      - ▹ From
        - – This,

in

- The
  - ◦ Sequence 2,

since

- Nothing
  - ◦ Dictates:
    - ▹ How
      - – Many: f

are

- To
  - ◦ Be:
    - ▹ Used,

we see that,

- Sometimes
  - ◦ Two: f
    - ▹ Will

be

- Used
  - ◦ To:
    - ▹ Generate,
- And
  - ◦ Sometimes
    - ▹ All

- Those: *ten* f

will

- Be
  - Used
    - To:
      - Generate,
- And
  - So
    - On.
- But
  - At least
    - One: f

will

- Be
  - Used
    - Generate:
      - An element,

since

- That
  - Sequence:
    - *Exists*
- And
  - So
    - From
      - This,

we see that,

- At
    - Anytime,
        - There:
            - Can

be

- Many,
    - But
        - Finite
            - Number

of

- Copies
    - For:
        - A single
            - Particle.
- But
    - If we:
        - Force
            - Ourselves

to

- Have
    - Only
        - One: f

to

- Generate

- An
    - ▹ Element,

then

- Only
    - *One* element
        - ▹ Will be:
            - Generated.
- And
    - So
        - ▹ If we:
            - Try

to

- Observe
    - A particle,

then

- We
    - Will
        - ▹ See
            - Only: *one*.
- But
    - If we
        - ▹ Apply:
            - The same logic

to:

"orbitals,"

we see that,

- There
  - Will be
    - ▹ A violation of:
      - The first exclusion principle,
- Or we see that,
  - Because
    - ▹ Of:
      - The first exclusion principle,

it

- Will
  - Be
    - ▹ Like:
      - All orbitals

are

- Always
  - Being:
    - ▹ Observed
      - By someone.
- And so
  - The number
    - ▹ Of:
      - Copies

of

- An orbital

- Will
  - Always
    - Be: *one*.

- But if
  - The number
    - Of copies:
      - Of a fermion

is

- More
  - Than:
    - *One*,

then

- There
  - Will be:
    - *No* violation
      - Of anything.
- In
  - Section 4,

we

- Will
  - Talk:
    - More

on

- The maximum
  - Number
    - Of:
      - Copies.

2.10 Speed of light

Consider

- The
  - Points:

$$(2,\ \ 0), \qquad (1,\ \ 0),$$

- And
  - Also:
    - Assume

that,

- There are
  - *No* points
    - Between
      - Them.
- Then
  - If
    - We:
      - Want

to

- Move
  - From:

$$(1,\ \ 0) \qquad \textit{to} \qquad (2,\ \ 0),$$

we see that,

- It
  - Will

- Take

a

- Finite
  - *Non-zero*
    - Amount
      - Of: *time.*

- Then
  - Since
    - *No*
      - Induction

is

- Used
  - To:
    - Define
      - It,

we see that,

- It
  - Will
    - Always
      - Be:

"*a constant,*"

- Or
  - A random
    - Value
      - From:

“*a finite range*,”

such that,

- That
  - Finite range
    - Will
      - *Never*:

“*change*,”

since

- There are:
  - *No* rules
    - To:
      - Change it.
- Also
  - Since
    - It
      - Has:

“*a non-zero value*”

we see that,

- It
  - Will
    - Be:
      - Measurable.
- And so
  - We see that,
    - If

- There is:

"*a metric*,"

then

- There
  - Will
    - Be:
      - A time.
- And
  - So
    - From:
      - These,
- And
  - Since:
    - In
      - Sub section 2.5,

we saw that,

- Bosons move
  - Between
    - Points
      - Of:

"*a structure*,"

- And
  - Space-bosons
    - Move
      - Between:

“*orbitals*,”

we see that,

- Their
    - Movements
        - Will:
            - Take place

at

- The
    - Speed
        - Of:
            - Time.
- And
    - So
        - The speed
            - Of:

“*light*,”

will

- Be
    - Equal:
        - To

the

- Speed
    - Of:
        - Time.
- And

- So
  - If:

the

- Speed
  - Of:
    - Time
      - Is *not*:

“*fixed*,”

then

- When
  - The
    - Speed
      - Of time:

“*changes*,”

then

- So
  - Will
    - The number
      - Of:

space-bosons *and* *bosons*

sent

- Per:
  - Second.
- And

- So
  - By:
    - That,

the

- Structure
  - Of:
    - Space:

will

- *Not*
  - Be:
    - Fixed.
- But
  - Since
    - The:
      - Structure

of

- Space
  - Is:
    - *Fixed*,

we see that,

- The
  - Speed
    - Of:
      - Time

will

- Also
    - Be:
        - *Fixed.*
- And
    - So
        - The speed
            - Of:

space-bosons and bosons

will

- Also
    - Be:
        - *Fixed,*
- And
    - So
        - The number
            - Of:

space-bosons and bosons

sent

- Per:
    - Second

by

- Their
    - Respective:
        - Senders

will

- Also
    - Be:
        - *Fixed.*
- And
    - Also
        - From:
            - This,
- And
    - Since
        - The speed
            - Of:

"*light*"

- Is:

"*measurable*"

we see that,

- If
    - We:
        - Measure

the

- Speed
    - Of:
        - Light,

then

- It
    - Will
        - Always
            - Be:

"*a constant.*"

- And
    - So:
        - Assume
            - That,

we

- Have
    - Some
        - How:
            - Managed

to

- Bring
    - Down:

"*the speed of bosons.*"

Then we see that,

- Something
    - From
        - Those:
            - Bosons

should

- Have
    - To
        - ▹ Be:
            - – Removed,

so that

- If
    - We
        - ▹ Can
            - – Return:

“those things”

which

- We
    - Removed:
        - ▹ From
            - – It,

then

- Its
    - Velocity
        - ▹ Will:
            - – Return

to

- Its:

“original.”

- But we see that,
    - To

        - ▹ Do:
            - It,

we

- Have to
    - Remove
        - ▹ That:
            - Something,
- And
    - Then
        - ▹ Store
            - It:

"*somewhere else.*"

- But
    - When
        - ▹ We:
            - Do

such

- A thing
    - With:
        - ▹ Bosons,

we see that,

- Those
    - Thing
        - ▹ Which
            - Where:

"removed"

should

- Have
  - To
    - ▹ Be:
      - Converted

into:

"fermionic components,"

since

- Space
  - Contains
    - ▹ Only:
      - Orbitals,
      - Fermions
      - And bosons,
- And
  - It
    - ▹ Cannot
      - Be:

"converted,"

- Into:

"orbitals,"

since

- That
  - Will

- ▹ Violate
  - – The:

"first exclusion principle."

- And so
  - ○ When
    - ▹ The:
      - – Speed

of

- A boson
  - ○ Comes:
    - ▹ Down,

then

"fermionic components"

- Will
  - ○ Appear
    - ▹ In
      - – It,
      - – And *vice versa.*

- And so
  - ○ If:
    - ▹ Something:
      - – Moves

at

- The
  - ○ Speed

- ▹ Of:
  - Light,

then

- It will
  - Only
    - ▹ Have:
      - Bosonic components,
- And
  - *No*:
    - ▹ Fermionic
      - Component,
- And
  - So
    - ▹ If:
      - Bosonic components

have:

"*mass*,"

then

- There
  - Will be:
    - ▹ *No*
      - Distinction

between

- Fermions
  - And

- ▹ Bosons.

- And
  - So
    - ▹ We:
      - Say

that,

- If
  - There
    - ▹ Is:
      - Mass,

then

- There
  - Is:
    - ▹ Fermionic
      - Components,
      - And *vice versa.*

- And so
  - If:
    - ▹ Something
      - Moves

at

- The
  - Speed
    - ▹ Of:
      - Light,

then

- It will
    - Have:
        - *No*
            - Mass.
- And so
    - When
        - A boson
            - Moves:

"*slower*"

than

- The
    - Speed
        - Of:
            - Light

then

- It
    - Will
        - Have:
            - Mass,
            - And *vice versa.*
- Also
    - From:
        - Now
            - Onwards,

when

- We

- Say,
  - ▹ Speed of:
    - – Time,

we mean,

- The
  - Rate
    - ▹ Of:
      - – Change

between

- *Two*
  - Consecutive
    - ▹ Points:
      - – In space.

2.11 Entanglement

Consider

- The
  - Finite
    - ▹ Sequence:

$$i_a, \qquad i_b. \tag{3}$$

Then we see that,

- We
  - Can:
    - ▹ Construct

a

- Similar:

- Sequence

with

- *Three*
    - Elements
        - In:
            - It,
- And
    - It will
        - Still be:
            - *Finite.*
- But
    - If we
        - Continue:
            - This way,

then

- After:
    - Sometime,

it

- Will
    - *No* longer
        - Be
            - Termed:

"*finite*,"

- But
    - An

- ▷ Inductive:
  - Sequence.

- Then
  - When
    - ▷ We:
      - Consider

the

- Inductive
  - Sequence:

$$i_0, \quad i_1, \quad i_2, \quad \ldots, \tag{4}$$

we see that,

- If
  - We
    - ▷ Want to:
      - Calculate

the

- Value
  - Of,
    - ▷ Say i_{1000},

then

- We
  - Have to:
    - ▷ Start
      - From: i_1,
- And

- Proceed:
  - Inductively

until

- We
  - Reach: i_{1000}.
- And
  - So:
    - The things
      - Of: i_{1000}

will

- Have
  - To be:
    - Deduced
      - From: i_1.
- And
  - So:
    - It

will

- Take:
  - A *time.*
- And so
  - The things
    - Of:
      - i_1 *and* i_{1000}

will

- *Not*:
    - Exist

at

- The
    - Same:
        - Time.
- But
    - When
        - We:
            - Consider

the

- Finite:
    - Sequence 3,

we see that,

- We
    - Do *not*
        - Have
            - To:

"*deduce*"

the

- Things
    - Of: i_b
        - From: i_a,

since

- Both
    - Of
        - ▹ Them:
            - *Exists*

at

- The
    - Same:
        - ▹ Time.

Or we see that,

- Due
    - To
        - ▹ The lack
            - Of:

"*induction*,"

all

- Things
    - In:
        - ▹ The finite
            - Sequence 3,

will

- *Always*:
    - Exist

at

- The

- Same:
  - ▹ Time.

- And so
  - The values
    - ▹ Of:
      - Both:

$$“i_a \quad \textit{and} \quad i_b,”$$

will

- Be *defined*
  - At:
    - ▹ The
      - Same time.

- And so
  - We see that,
    - ▹ There:
      - Is

a

- Lack
  - Of:
    - ▹ Time

due

- To:
  - The lack
    - ▹ Of:
      - *Induction.*

- And
    - So
        - In:
            - The sequence 3,

if:

$$i_b \quad = \quad i_a \quad + \quad 1,$$

- And
    - The value
        - Of: i_a
            - Is: 10,

then

- At
    - That:
        - Very
            - Instant,

the

- Value
    - Of: i_b
        - Will
            - Be: 11.
- And so
    - There
        - Is:
            - A timeless-ness

in

- The
    - Finite:
        - Sequence 3.
- But
    - If
        - We:
            - Explicit

add

- A delay
    - Into:
        - It,
- Or
    - If
        - There:
            - Is

an

- Induction
    - To
        - Do:
            - It,

then

- The
    - Value
        - Of: i_b

will

- Be: 11
    - Only
        - After
            - Some: *time.*
- And so
    - We see that,
        - This:
            - Timeless-ness

will:

"*disappear.*"

- And
    - So
        - From:
            - This,

we see that,

- If
    - We
        - Do *not*:
            - Explicitly

add

- An induction
    - Or
        - A delay,

into

- A system

- With:
  - Just
    - *Two* things,

then

- It
  - Will
    - Be:
      - A timeless-less system.
- And
  - So
    - We:
      - Assume

that,

- If
  - There:
    - Are

only

- *Two*
  - Things
    - In:
      - A system,

then

- It
  - Will
    - Be:
      - A timeless system.

- And
    - So:
        - Let

us

- Consider:
    - A system, S,

such that

- At anytime,
    - It
        - Can:
            - Be

in

- One
    - Of
        - The states:
            - q_1 or q_2,
    - But
        - *Not*:
            - Both.

Then we see that,

- We
    - Can draw
        - This:
            - State diagram

in

- A two
    - Dimensional:
        - Space.

Exemplifying,

- Let
    - The
        - Point: $(0,\ \ 0)$
            - Represent: q_1,
- And
    - Let
        - The point: $(1,\ \ 0)$
            - Represent: q_2.
- And
    - Let us,
        - Call
            - This:

"*the first representation.*"

- But we see that,
    - We
        - Can:
            - Represent

this

- State diagram
    - In
        - Another:

- Way.

Exemplifying,

- Let
  - The
    - ▹ Point: $(0,\ \ 0)$
      - Represent: q_1,
- And
  - Let
    - ▹ The point: $(2,\ \ 0)$
      - Represent: q_2.
- And
  - Let us,
    - ▹ Call
      - This:

"*the second representation.*"

- Then we see that,
  - We
    - ▹ Can:
      - Represent

this

- State diagram
  - In:
    - ▹ Yet another
      - Way.

Exemplifying,

- Let
    - The
        - ▹ Point: $(0,\ \ 0)$
            - Represent: q_1,
- And
    - Let
        - ▹ The point: $(3,\ \ 0)$
            - Represent: q_2.
- And
    - Let us,
        - ▹ Call
            - This:

"*the third representation.*"

- Then
    - We see that,
        - ▹ All

these

- *Three*
    - Representations
        - ▹ Are:
            - Equivalent.
- And
    - So
        - ▹ A state diagram:
            - Can

be:

- Stretched
    - Or contorted
        - Or twisted,
- And
    - It:
        - Will

still

- Remain
    - The:
        - Same.
- And
    - So
        - If:
            - We

can

- Connect:
    - *Two*
        - Particles,

such that,

- That
    - System
        - Can be:
            - Stretched
            - Or contorted

            - Or twisted,

then

- The change
    - In:
        - ▹ One
            - Of: *them*

will

- Be
    - Immediately:
        - ▹ Felt

in

- The:
    - Other,

since

- *Two*:
    - Related
        - ▹ Things

will

- Always
    - From:
        - ▹ A timeless
            - System.
- And
    - So:
        - ▹ They

will

- Be:
    - Entangled.
- And
    - So
        - To:
            - Look

into

- The
    - Concept
        - Of:
            - Stretchablity,

let

- i_1 *and* i_2
    - Be
        - *Two*:
            - Something

in:

"*a metric space.*"

- Then
    - If:
        - The concept
            - Of:

"*stretchablity*"

is

- *Not*
  - Defined
    - ▹ Between:
      - Them,

we see that,

- If: i_1
  - Is
    - ▹ Located
      - At: $(0,\ 0)$,
- And: i_2
  - At:
    - ▹ $(10,\ 0)$.
- And: i_2
  - Moves
    - ▹ To: $(11,\ 0)$,

then

- The relation
  - Between
    - ▹ Them
      - Will:

"*break down.*"

- And so
  - That relation
    - ▹ Between:
      - Them

will

- Be
    - Dependent
        - ▹ On
            - Their:

“positions.”

- But
    - A relation:
        - ▹ Should *not*
            - Depend

on

- The positions
    - Of:
        - ▹ The related
            - Things,

since

- If:

$$S = \{ a, b \},$$

then

- There
    - Need:
        - ▹ *Not*

be

- Any

- Metric
  - In: S,

- And
  - At:
    - The
      - Same time,

there

- Can be
  - A relation
    - Between:
      - a *and* b
      - Say: $b = a + 1$.

- And
  - So
    - The:
      - Concept

of

- Stretchablity
  - Should be
    - Defined:
      - Between:

$$i_1 \quad \textit{and} \quad i_2.$$

- But
  - If: i_1 *and* i_2
    - Are:
      - *Two* something

such that

- $i_2 = i_1 + 1$,
    - And if
        - ▹ They:
            - Both

do

- *Not*
    - Belong
        - ▹ To:
            - A metric space,

then

- There
    - Will:
        - ▹ *Not*

be

- Any
    - Concept of:
        - ▹ Stretchablity
            - Between:

$$i_1 \quad \textit{and} \quad i_2.$$

- But
    - If
        - ▹ We:
            - Introduce

a

- Metric
    - Between:
        - Them,

then

- The
    - Concept
        - Of:
            - Stretchablity

will

- Become
    - Defined;
- Regardless
    - Of:
        - How far
            - They are.
- And
    - It will
        - Get:
            - Defined,

since

- The relation
    - Has
        - To hold
            - In:

"*the metric space.*"

So we see that,

- Stretchablity
    - Is:
        - ▹ An inherent:
            - Property

of

- All
    - Relations
        - ▹ In:
            - A metric space.
- Also
    - If
        - ▹ It
            - Is:

"*stretchable*,"

then

- It will
    - Obviously
        - ▹ Be:
            - Contort-able
            - And twistable.
- And
    - So
        - ▹ Let:
            - p_1 *and* p_2

be

- *Two*:
    - Particles.

Then we see that,

- We cannot
    - Use
        - Other:
            - Particles

to

- Construct
    - A relation
        - Between:
            - Them,

since

- That
    - Relation
        - Is:
            - To

be

- Between:
    - *Two*
        - Particles.
- And
    - So
        - From:
            - This,

- And
    - Since:
        - ▹ Stretchablity

is

- An inherent:
    - Property
        - ▹ Of
            - All:

"*metric spaces*,"

- And
    - Since
        - ▹ All:
            - Systems

with

- Just
    - *Two*:
        - ▹ Things

will

- Be:
    - A timeless
        - ▹ System,

we see that,

- If:
    - *Two* particles

- Are:
  - Related,

then

- They
  - Both
    - Will
      - Also be:

“*entangled.*”

- And
  - So
    - Let:
      - p_1 *and* p_2

be

- *Two*
  - Entangled:
    - Particles.
- Then
  - Since
    - They
      - Are:

“*entangled.*”

we see that,

- Change
  - In:
    - One

- Of: *them*

will

- Be
  - Immediately
    - Felt
      - In:

"*the other.*"

- But
  - If we
    - Gradually:
      - Increase

the

- Distance
  - Of separation
    - Between:
      - Them,

then

- After
  - Sometime,
    - We cannot:
      - Say

that,

- This
  - Is:
    - A finite

- System.

- Or
  - When we
    - Gradually:
      - Increase

the

- Distance
  - Of:
    - Separation,

then

- After
  - Sometime,
    - An:
      - Induction

will

- Appear
  - In:
    - The
      - System.
- And
  - So:
    - A *time*

will

- Appear
  - In:

        - ▹ The
            - System.

- And
    - That
        - ▹ Will be:
            - Equivalent

to

- Physically
    - Adding:
        - ▹ A time
            - Between:

$$p_1 \quad \textit{and} \quad p_2.$$

- And
    - So
        - ▹ At that:
            - Moment,

we see that,

- The timeless-ness
    - Between: p_1 *and* p_2
        - ▹ Will:
            - *Disappear.*
- And
    - So
        - ▹ At that:
            - Moment,

we see that,

- p_1 *and* p_2
  - Will
    - ▷ Cease
      - To be:

"*entangled.*"

- In
  - Sub section 2.4,

we saw that,

- *Two* fermions
  - Can
    - ▷ Be:
      - Related.
- And
  - So
    - ▷ We see that,
      - *Two* fermions

can

- Be:

"*entangled.*"

- Also
  - If: i
    - ▷ Is:
      - *Something*,

- And we say that,
  - The value
    - Of: i
      - Is: 10,

then

- At
  - The
    - Very:
      - Instant

we

- Finished
  - Saying:
    - That,

the

- Value
  - Of: i
    - Is: 10,

it

- Would
  - Mean:
    - That,

if

- We
  - Take
    - Into:

- Consideration

all

- The
    - Sub components
        - Of: i,

only

- Then:
    - Will

the

- Value
    - Of: i
        - Be: 10.
- And
    - So
        - From:
            - This,

we see that,

- All
    - The
        - Sub components
            - Of: i

will

- Be:

“*entangled.*”

- And so
  - If: p
    - Is
      - A fermion,
- And
  - If: p
    - Has:
      - Decided

to

- Emit:
  - A boson,

then

- Until
  - The
    - Moment:
      - Before

that

- Boson
  - Was:
    - Emitted,

all

- Those
  - Things
    - That:
      - Will

be

- Emitted
  - As:
    - A boson,
- And
  - The
    - Rest
      - Of: p

will

- Be:

"entangled."

- And
  - So
    - After:
      - That boson

has

- Been:
  - Emitted,

we see that,

- Until
  - An induction
    - Appears
      - In:

"the system,"

that

- Boson
    - And
        - That fermion
            - Will be:

"*entangled.*"

- And
    - So:
        - We see that,

a

- Fermions
    - And
        - A boson
            - Can be:

"*entangled.*"

- And
    - Also
        - From:
            - This,

we see that,

- *Two*
    - Bosons
        - Emitted by:
            - A fermion

will

- Be:

“entangled.”

- And
  - So
    - ▹ Any *two*:
      - Fermions
      - Or bosons

can

- Be:

“entangled.”

- Also
  - Since:
    - ▹ In
      - Sub section 2.4,

we saw that:

“adjacent fermions”

in

- A structure
  - Are:
    - ▹ Related.
- And so
  - All
    - ▹ Adjacent:
      - Fermions

in

- A structure
  - Will
    - ▹ Be:
      - *Entangled.*

2.12 Localdynamics

Later.

2.13 Lineardynamics

In

- Sub section 2.12,

we see that,

- Atoms
    - Are used to:
        - ▹ Construct
            - – Structures,
- And also there
    - Are only
        - ▹ A finite number:
            - – Of atoms,
- And
    - So
        - ▹ Let
            - – The list

of

- All
    - Atoms
        - ▹ Be:

$$\mathscr{A}_1, \quad \mathscr{A}_2, \quad \mathscr{A}_3, \quad \ldots . \tag{5}$$

- In

- Sub section 2.12,

we saw that,

- Negative
    - Fermions
        - Are:
            - Present

in

- Orbitals
    - Around
        - The:
            - Nuclei.
- In
    - Sub section 2.5,

we saw that,

- An orbital
    - Can contain:
        - *Zero*
        - Or *one*
        - Or *two*
            - Fermions in it.
- And so there
    - Will
        - Be:
            - Atoms

in which

- All
    - The:
        - Orbitals

will

- *Not* have:
    - *Two*
        - Fermions:
            - In it.
- And so
    - All atoms
        - Will have:
            - Some characteristics.
- And so if we
    - Construct
        - Structures:
            - With atoms,

then

- Those structures
    - Will exhibit
        - Those:
            - Characteristics.
- But
    - Since:
        - Structures

are

- Constructed:
    - Using
        - Some:
            - Rules,

we see that,

- Only
    - Those
        - Rules
            - Should

be

- Evident
    - In:
        - The big
            - Picture.
- And
    - So:
        - Atomic
            - Characteristics

should

- *Not*
    - Be evident
        - Outside:
            - A structure.
- And so
    - Before we
        - Construct:

- Structures,

all

- Atomic characteristics
  - Should
    - Be:
      - Neutralized.
- And so if:
  - An atom
    - Has:
      - Some characteristics,

then

- There
  - Will:
    - *Exist*
      - Another atom

that

- Can
  - Cancel
    - Its:
      - Characteristics.
- And
  - So
    - It:
      - Should

be

- Possible
  - To bind:
    - Two or more
      - Atoms together,

so that

- The basic constituents
  - Of
    - All:
      - Structures

will

- Have
  - *No*:
    - Atomic
      - Characteristics.
- And
  - So
    - Atoms

will

- First
  - Combine
    - Into:
      - Molecules,
- And
  - Then:
    - Molecules

will

- Be
    - Used to
        - Construct:
            - Structures.
- And also bonds
    - Between atoms
        - Will be:
            - Stable,

since

- Basic
    - Components
        - Of:
            - A structure

should

- Remain:
    - As
        - Such.

So we see that,

- If: $\mathscr{A}_i$
    - Is:
        - Bound
            - To: $\mathscr{A}_j$,

then

- $\mathscr{A}_i$ will

- Have:
  - Something

to

- Do
  - With: $\mathscr{A}_j$,
    - And
      - *Vice versa.*

so that

- The bond
  - Between:
    - Those
      - *Two* atoms

will

- Neutralize
  - Each
    - Others:
      - Characteristics.
- Also
  - If:

$$\mathscr{A}_i, \qquad \mathscr{A}_{i+1}, \qquad \mathscr{A}_{i+2}$$

are

- Three
  - Consecutive
    - Atoms:
      - In the list 5,

- And if:
  - $\mathscr{A}_i$ is:
    - ▹ Compatible
      - With: $\mathscr{A}_{i+1}$,
      - And: $\mathscr{A}_{i+1}$ *with*: $\mathscr{A}_{i+2}$

then

- $\mathscr{A}_i$ will
  - Be:
    - ▹ Compatible
      - With: $\mathscr{A}_{i+2}$.
- And
  - So
    - ▹ In
      - Effect,

all

- Atoms
  - Will have
    - ▹ The same:
      - Characteristics.
- And so
  - Characteristics
    - ▹ Of:
      - Atoms

in

- Cannot
  - Be:

        - ▹ Canceled.

- Also if:
    - The characteristics
        - ▹ Of:
            - Atoms

in

- The list 5
    - Increases
        - ▹ With:
            - Each step,

then

- Atomic
    - Characteristics
        - ▹ In:
            - A molecule

cannot

- Cancel:
    - Each
        - ▹ Other.
- And
    - So
        - ▹ In
            - The list 5,

we see that,

- Atomic

    - Characteristics
        - ▹ Should:
            - Repeat,

so that

- Characteristics
    - Of:
        - ▹ Some
            - Atoms

can

- Cancel
    - That
        - ▹ Of:
            - Others.
- And
    - So
        - ▹ It:
            - Will

be

- Possible to
    - Divide:
        - ▹ The list 5
            - Into periods.
- And
    - Also
        - ▹ When

we

- Divide
    - The list 5
        - ▹ Into:
            - Periods,

we see that,

- The length
    - Of all periods
        - ▹ Will be:
            - The same,

so that

- If:
    - An atom
        - ▹ Has some:
            - Characteristics,

then

- There
    - Can:
        - ▹ *Exist*
            - Another atom

that

- Can cancel
    - The previous
        - ▹ Atoms:
            - Characteristics.

- And

- So
  - If

we

- Periodicalize
  - The list 5,
    - Into,
      - Say:

$$\begin{array}{cccc} \mathscr{A}_1, & \ldots, & \mathscr{A}_{n-1}, & \mathscr{A}_n, \\ \mathscr{A}_{n+1}, & \ldots, & \mathscr{A}_{2n-1}, & \mathscr{A}_{2n}, \\ & \ldots, & & \end{array}$$

then

- The
  - Atoms:

$$\mathscr{A}_1, \quad \mathscr{A}_{n+1}, \quad \ldots$$

will

- Have
  - The
    - Same:
      - Characteristics.
- And
  - Similarly,
    - For
      - The atoms:

$$\mathscr{A}_2, \quad \mathscr{A}_{n+2}, \quad \ldots$$

- Also
    - In:
        - ▷ The
            - List 5,

since

- Atomic characteristics
    - Repeats
        - ▷ With:
            - Each period,

we see that,

- If:

$$\mathscr{A}_{n+1}, \qquad \ldots \qquad \mathscr{A}_{2n-1}, \qquad \mathscr{A}_{2n}$$

  - Is:
      - ▷ A period,

then

- As we
    - Move
        - ▷ Forward:
            - In that period,

the

- Characteristics
    - Of: $\mathscr{A}_{n+1}$

will

- Gradually

- ◦ Change
  - ▹ Into:
    - – The opposite,

so that

- There:
  - ◦ Will
    - ▹ Be

a

- Compatible
  - ◦ Atom
    - ▹ For: $\mathscr{A}_{n+1}$.
- And
  - ◦ So
    - ▹ The first
      - – Atom: $\mathscr{A}_1$

will

- Have
  - ◦ Some:
    - ▹ Characteristics,

since

- If *not*,
  - ◦ Then
    - ▹ There:
      - – Will

be

- *No*
  - Characteristics
    - To:
      - Change.
- Also
  - In
    - The
      - List 5,

since

- Atomic characteristics
  - Change
    - To:
      - The opposite,
- And
  - Then
    - Start
      - Anew,

we see that,

- There
  - Will:
    - *Exist*
      - Atoms

with

- *No*
  - Characteristics:
    - At

      - All.

- And
    - So
        - ▹ Such
            - Atoms

will

- *Not*
    - Combine
        - ▹ With:
            - Other atoms.

- And
    - So
        - ▹ From
            - This,

- And since: $\mathscr{A}_1$
    - Has
        - ▹ Some:
            - Characteristics,

we see that,

- These
    - Atoms:

$$\mathscr{A}_n, \qquad \mathscr{A}_{2n}, \qquad \ldots$$

will

- *Not*
    - Have:

            - ▹ Any
                - Characteristics.

- And
    - So
        - ▹ They

will

- *Not*
    - Combine:
        - ▹ With Any
            - Other atom.
- And
    - Also
        - ▹ From
            - These,

we see that,

- The number
    - Of:
        - ▹ Atomic
            - Characteristics

will

- Be:
    - *Finite.*
- And
    - So
        - ▹ There:

- Will

be

- A finite
    - Number
        - Of:
            - Rules

to

- Construct
    - All:
        - Molecules.
- Also
    - Since:
        - There

is

- A separate
    - Area for:
        - Positive
        - And negative
            - Fermions,

we see that,

- The average force

will

- Spill
    - Out
        - Of:

        - All atoms.

- And
    - So
        - ▹ By
            - That,

there

- Will be
    - A force
        - ▹ Between:
            - Molecules,
- And so
    - Structures
        - ▹ Could be:
            - Built.
- And
    - So
        - ▹ The average force

will

- Be used
    - To
        - ▹ Construct:
            - All structures.
- Also
    - Since
        - ▹ In
            - Sub section 2.12,

we saw that,

- There are
    - Only:
        - A finite number
            - Of atoms,

we

- Call
    - That
        - Periodicalized list:
            - Periodic table.

2.14 Neutraldynamics

Later.

3 Gravity

In

- Sub section 2.11,

we

- Saw
    - The concept
        - Of:
            - Timeless-ness.
- And
    - So:
        - Let

us,

- Review:
  - It,
- And
  - Let us,
    - Build:
      - Upon it.
- And so
  - To
    - Review:
      - It,

consider

- A finite
  - Timeless
    - System: $i_1, \quad i_2,$
      - Such that: $i_2 \quad = \quad i_1 \quad + \quad 1.$
- Then
  - When
    - We:
      - Make

the

- Value
  - Of: i_1
    - To
      - Be: $10,$

we see that,

- The
  - Value
    - ▹ In: i_2

will:

- Automatically
  - Be:
    - ▹ Equal
      - To: $11,$

since

- There
  - Is:
    - ▹ *No* time
      - In it.
- And
  - Similarly,
    - ▹ When:
      - We consider

a

- System
  - With:
    - ▹ *Three* elements,
      - Say $i_1, \; i_2, \; i_3,$
    - ▹ Such that:
      - $i_2 = i_1 + 1,$
      - $i_3 = i_2 + 1,$

then

- We
    - Can:
        - Assume

that,

- There
    - Is:
        - *No* time
            - Between:

$$i_1 \quad \textit{and} \quad i_2$$

- And
    - Similarly,
        - Between:
            - i_2 *and* i_3.
- And
    - So
        - In:
            - This case,

we

- Can:
    - Assume

that,

- There
    - Is:

▹ *No* time

– Between:

$$i_1 \quad \textit{and} \quad i_3.$$

- And
  - So:
    - ▹ We

can

- Construct
  - Such systems
    - ▹ With: $4, \ 5, \ \ldots$
      - Elements in it.
- But
  - As
    - ▹ The:
      - Size

of

- The
  - System:
    - ▹ Increases,

we see that,

- At
  - Some point,
    - ▹ We:
      - Will be:

"*unable*"

to

- Make
    - The:
        - ▹ Change

in

- *Zero*
    - Units
        - ▹ Of:
            - *Time.*
- Or we see that,
    - As
        - ▹ The:
            - Size

of

- The
    - System:
        - ▹ Increases,

at

- Some:
    - Point,

the

- Change
    - Made
        - ▹ In:
            - The system

will

- Be:
    - Reflected

in

- The
    - Entire:
        - ▹ System

only

- After
    - Some:
        - ▹ *Non-zero*
            - Units of time.
- And so
    - As
        - ▹ The:
            - Size

of

- The
    - System:
        - ▹ Increases,

we see that,

- An
    - Inductive:
        - ▹ Process

will

- Begin
    - To
        - ▹ Appear:
            - In it,
- And so
    - The timeless-ness
        - ▹ Will:
            - Disappear.

So we see that,

- There
    - Is:
        - ▹ A limit

to

- The applicability
    - Of:
        - ▹ The concept
            - Of: *timeless-ness.*
- And
    - So
        - ▹ We:
            - Introduce

a

- A new
    - Constant
        - ▹ Called:
            - The pons constant, $\underline{p}$

which

- Is
    - The
        - Minimum:
            - Number

of

- Elements
    - Required
        - To have:
            - A time.
- Or
    - We
        - Mean:
            - That,

if

- A system
    - Has
        - At least: $\underline{p}$
            - Elements in it,

then

- It
    - Will:
        - Have

a

- Time

    - In:
        - It.

Note that,

- The value
    - Of
        - This:
            - Constant

has

- To be
    - Found
        - Out:
            - Experimentally,

since

- It
    - Is:
        - Like

a

- Grown up
    - Person
        - Can
            - Handle:

"*many things*,"

- But
    - A small:
        - Child

can

- Only
    - Handle:

“*a few things.*”

- And so
    - Let
        - Us,
            - Look

at

- This
    - Emergent time
        - In:
            - Details.
- And so
    - Consider:
        - A structure,
            - Say L.
- Then
    - Since
        - It:
            - Had

been

- Constructed
    - Using:
        - Induction,

we see that,

- It
    - Has:

"*a characteristic function.*"

- Also
    - Since
        - ▷ All:
            - Structures

are

- Always
    - Constructed
        - ▷ In:
            - The same way,
- And
    - Since
        - ▷ The same:
            - Space

is

- Always:
    - Used

to

- Construct
    - All:
        - ▷ Structures,

we see that,

- All
    - Characteristic functions
        - Can
            - Only be:

"*constructed*"

in

- A finite
    - Number
        - Of:
            - Ways.
- And
    - So
        - We:
            - Assume

that,

- All
    - Functions:
        - Can

be

- Constructed
    - Only
        - In:
            - A single way.
- And

- So
  - From:
    - This,

we see that,

- All
  - Functions
    - Can:
      - Always

be

- Represented
  - Using:
    - n number
      - Of things.
- And
  - Also
    - With:
      - n things,

we

- Can
  - Have
    - At most:
      - 2^n combinations.

Therefore

- Since
  - There
    - Is:

- An upper bound

for

- The
    - Number
        - Of:
            - Ways

in

- Which:
    - The:
        - Sub components

of

- A function
    - Can
        - Be:
            - Arranged,

we see that,

- At
    - Any:
        - Moment,

all

- Functions
    - Can
        - Only:
            - Handle

a

- Finite
    - Number
        - Of:
            - *Things.*
- Or
    - At
        - Any:
            - Moment,

we see that,

- *No* function
    - Can:
        - Handle
            - More than

a

- Certain
    - Number
        - Of:
            - *Things.*
- And
    - So
        - From:
            - This,

assume that,

- At
    - Any:
        - Moment,

a

- Function
  - Can handle:
    - Only $\underline{p} - 1$ things
      - All at once.
- Then
  - When
    - A function
      - Handles:

$$\text{“}\underline{p} - 1 \quad \textit{things}\text{”}$$

all

- At:
  - Once,

we see that,

- Change
  - In:
    - *One*
      - Of them

will

- Be
  - Immediately:
    - Reflected

in

- All

- The
    - Other:
        - $\underline{p} - 2$ things.

- And so
  - All
    - Those:
        - $\underline{p} - 1$ things

will

- Be:

"entangled."

- But if:
  - It
    - Handles:
        - $\underline{p}$ things,

then

- To
  - Make:
    - A change,

it

- Will
  - First make
    - A change
        - In:

"$\underline{p} - 2$ *things*,"

- And

- Then:
    - ▹ Stop,

- And
  - Make
    - ▹ The
      - Change in:

$$\text{“}\textit{the} \quad \underline{p}^{th} \quad \textit{thing.}\text{”}$$

Or we see that,

- Since
  - It
    - ▹ Cannot:
      - Handle

more

- Than
  - $\underline{p}$ things
    - ▹ All:
      - At once,

it

- Has
  - To
    - ▹ First:
      - Make

the

- Change
  - In:

- ▹ $\underline{p} - 2$ things,

- And
  - Stop,
    - ▹ And then:
      - Make

the

- Change
  - In
    - ▹ The:
      - $\underline{p}^{th}$ thing.

So we see that,

- When
  - A Function:
    - ▹ Does something
      - Initially;
- And
  - Then
    - ▹ Stops,
- And
  - Does
    - ▹ Something:
      - Else,

we see that,

- There
  - Will

▹ Appear:
  - A time

in

- The:

"*process.*"

- And
  - So
    - ▹ When we:
      - Construct

a

- Structure
  - From
    - ▹ Basic:
      - Elements,

initially,

- There
  - Will
    - ▹ Be:
      - *No* time

in

- The
  - Inside
    - ▹ Of:
      - It.

- But

- As
    - The structure:
        - Grows,

- And when
    - There are:
        - $\underline{p}$ things
            - In it,

we see that,

- A time
    - Will:
        - Appear

in

- The
    - Inside
        - Of:
            - It.

- And
    - Also
        - The:
            - Scope

of

- This
    - Time;

- Or
    - The area

        - Of:
            - Applicability

of

- This:
    - Time

will

- Be
    - The
        - Entire:
            - Structure.
- Also
    - The:
        - Speed

of

- This
    - Time
        - In:
            - The structure

will

- Be:
    - Equal

to

- The
    - Velocity
        - Of:

- Light,

since

"*the underlying space*"

is

- Used
  - To
    - Construct:

"*the characteristic function,*"

- And so
  - The
    - Speed
      - Of: *time*

in

- The function
  - Will
    - Be:
      - Equal

to

- The speed
  - Of
    - Time:
      - In space.
- And
  - So
    - From:

- These,

we see that,

- The characteristic function
  - Of:
    - A structure

will

- Be
  - Divided
    - Into:
      - *Divisions*,

such that,

- Each:

"*division*"

will

- Have
  - A *function*
    - Represented
      - Using:

"n *things*,"

- And
  - So
    - All:
      - Particles

in

- A *division*
  - Will
    - Be:
      - Entangled.

Note that,

- We
  - Do *not*
    - Call
      - Them:

“*partitions*,”

since

- Adjacent
  - *Divisions*
    - Will:
      - Intersect.
- And so
  - Let: L
    - Be:
      - A structure.
- And
  - Also
    - Let:
      - D_1 *and* D_2

be

- Two

- *Divisions*
  - ▹ In:
    - It,

such that

- They
  - Both:
    - ▹ Intersect.
- Also
  - Let: D^c
    - ▹ Be

the

- Particles
  - Common
    - ▹ To:
      - Both: D_1 *and* D_2.
- And
  - Also
    - ▹ Let: D_1^-

be

- The particles
  - Of: D_1
    - ▹ Obtained
      - By: *removing*

the

- Particles

- Of: D^c
    - ▹ From: D_1.

- And
    - Similarly,
        - ▹ Define: D_2^-.

- And
    - Assume:
        - ▹ That,

a

- Change
    - Has:
        - ▹ Occurred
            - In: D_1^-.

- Then
    - Since
        - ▹ The:
            - Function

for

- A *division*
    - Can
        - ▹ Handle:
            - All

the

- Particles
    - Of: D_1

- ▹ All:
  - At once,

we see that,

- The change
  - Will
    - ▹ Be:
      - Reflected

in

- All
  - The particles
    - ▹ Of: D_1
      - Immediately.
- And
  - So
    - ▹ The:
      - Change

will

- Be
  - Reflected:
    - ▹ Immediately

in

- All
  - Particles
    - ▹ Of:
      - D_1^- *and* D^c.

- But
  - At
    - ▹ That:
      - Moment,

we see that,

- That
  - Change
    - ▹ Will:
      - *Not*

be

- Reflected
  - In: D_2^-,

since

- This
  - Change
    - ▹ Was:
      - Caused

by

- The function
  - For:
    - ▹ The
      - *Division*: D_1,
- And
  - Since
    - ▹ That:

      - Function

cannot

- Handle
  - More
    - Than:
      - $\underline{p}$ things.
- And so
  - At
    - That:
      - Moment,

we see that,

- That
  - Change
    - Will be:
      - Reflected

only

- In: D^c,
  - And
    - *Not*
      - In: D_2^-.
- But
  - Since:
    - All particles
      - Of: D^c *and* D_2^-

are

- Entangled
  - To:
    - ▹ Each
      - Other,

we see that,

- After
  - The:
    - ▹ Properties

have

- Been:
  - Transfered
    - ▹ To: D^c

in

- *Zero*
  - Units
    - ▹ Of:
      - Time,

then

- In the next
  - Unit
    - ▹ Of:
      - Time;
- Or
  - In
    - ▹ The:

- Unit

of

- Time
    - After
        - That:
            - Transfer,

the

- Properties
    - Of: D^c
        - Will

be

- Transfered:
    - Immediately
        - Into: D_2^-.
- Also
    - In
        - The:
            - Case,

when

- A change:
    - Occurs

at

- The
    - Same:
        - Time,

in

- Both:
  - D_1 *and* D_2,

then

- The change
  - That:
    - ▹ Occurred
      - In: D_1,

will

- Be:
  - Reflected
    - ▹ In:
      - D^c *and* D_1^-

in

- *Zero*
  - Units
    - ▹ Of:
      - Time.
- And
  - Similarly,
    - ▹ In:
      - D^c *and* D_2^-.
- And so
  - The total:
    - ▹ Change

- In: D^c

will

- Be:

"*the vectorial sum*"

- Of:

"*the changes*"

that

- Occurred
  - In
    - Both:
      - D_1^- *and* D_2^-.
- And
  - Then
    - After that:
      - Transfer

from

- D_1^- *and* D_2^-.
  - Into: D_c,

in

- The:
  - Unit

of

- Time
  - After

  - ▹ That:
    - Transfer,

the

- Properties
  - ◦ In: D_c

will

- Be
  - ◦ Transfered:
    - ▹ Immediately
      - Into: D_1^- *and* D_2^-

as

- Per
  - ◦ The rules
    - ▹ Of:
      - The system.
- And
  - ◦ Also
    - ▹ This:
      - Rate

of

- Transfer
  - ◦ Of:
    - ▹ Property

will

- Take:

    - Place

at

- The
    - Speed
        - Of:
            - Light,

since

- That
    - Is
        - The:
            - Speed

of

- Time
    - In
        - The:
            - Function.
- Then
    - Since:
        - Something
            - Is:

is:

"*transfered*"

at

- The
    - Speed

- ▹ Of:
  - Light,

we see that,

- Those
  - Things
    - ▹ Transfered
      - Will be:

"*bosons*,"

since

- In
  - Sub section 2.10,

we saw that,

- If:
  - Something:
    - ▹ Moves

at

- The
  - Speed
    - ▹ Of:
      - Light,

then

- It
  - Will
    - ▹ Only
      - Have:

“*bosonic components.*”

- And
    - So
        - It:
            - Should

be

- Possible
    - For
        - All:
            - *Divisions*

in

- A structure
    - To
        - Emit:
            - Bosons.

But we see that,

- If:
    - A *division*

will

- *Not*
    - Emit:
        - Bosons,

then

- In

- Effect,
  - There:
    - Will

be

- *No*:
  - Characteristic
    - Function

for

- The
  - Whole:
    - Structure.
- Or
  - If
    - All:
      - *Divisions*

will

- *Not*
  - Always
    - Emit:
      - Bosons,

then

- It
  - Would:
    - Be

like

- All
    - *Divisions*
        - Are:
            - Independent entities.
- And
    - So
        - All:
            - *Divisions*

in

- A structure
    - Will:
        - Always
            - Emit: *bosons*,

so that

- There
    - Will
        - Be:

"*a characteristic function*"

for

- The
    - Whole:
        - Structure.
- And
    - So
        - All:

- *Divisions*

will

- Emit
  - Bosons
    - In:
      - All directions.
- Also since
  - These
    - Are:
      - Bosons,

we see that,

- There
  - Will:
    - Be

a

- Force
  - Associated
    - With:
      - It.

Then we see that,

- Since
  - That:
    - Characteristic function
      - Always:

"*exists*"

there

- Will be
    - A relation
        - Between
            - All:

"*divisions.*"

- And
    - So
        - From:
            - This,
- And
    - Since
        - That:
            - Relation

should

- *Not*
    - Be:
        - Broken,

we see that,

- This:
    - Force

should

- *Not*
    - Break
        - That:

            - Relation.

- And
    - So
        - ▹ This:
            - Force

will

- Be:

"*an attractive force.*"

- Also
    - Since
        - ▹ All:
            - *Divisions*

can

- Emit:
    - Bosons,

we see that,

- The
    - Number
        - ▹ Of bosons:
            - Emitted

by:

"*a structure*"

will

- Be:

◦ Proportional

to

- The number
    - Of:
        - ▹ *Divisions*
            - In it.
- And
    - So
        - ▹ This:
            - Force

will

- Be:
    - Proportional

to

- The mass
    - Of:
        - ▹ The
            - Structure.
- Also
    - Since
        - ▹ The:
            - Characteristic function

has

- A time
    - In:

        - It,

- And
    - Since
        - The characteristic function:
            - *Exits*

only

- Because
    - Of
        - These:
            - Bosons,

we see that,

- These:
    - Bosons

will

- Have:
    - A time
        - Component.
- And
    - So
        - The magnitude
            - Of:

“*direction*”

for

- Each: *axis*

- In
    - These:
      - Bosons

will

- Be
  - *One*
    - More:
      - Than

that

- In
  - Usual:
    - Bosons.
- And
  - So:
    - Let

us,

- Call
  - These
    - Bosons:
      - Gravitons.
- And
  - Also
    - Since:
      - These things

are

- The
    - Only
        - Possible:
            - Things

that

- Can
    - Emit
        - Such:
            - Bosons,

we see that,

- There
    - Will be:
        - *No* other
            - Bosons

with

- The
    - Same:
        - Direction
            - Magnitudes

as

- That
    - In:
        - Gravitons.
- But
    - Since:

- ▹ Induction

is

- Definable
  - In:
    - ▹ Empty
      - Space,

we see that,

- It:
  - Might

be

- Possible
  - For:
    - ▹ Us

to

- Define
  - This
    - ▹ Concept
      - In:

"*empty space.*"

- But:
  - In
    - ▹ Sub section 2.4,

we saw that,

- An inductive:

- Definition
  - ▹ Can:
    - – Only

be

- Realized
  - Using:
    - ▹ Fermions.
- And
  - So
    - ▹ There:
      - – Will

be

- *No*
  - Gravitons
    - ▹ Due to:
      - – Empty space.
- But
  - Gravitons
    - ▹ From:
      - – A structure

can

- Spill
  - Into:
    - ▹ Empty orbitals,
      - – Or empty space,

since

- Gravitons
    - Passes:
        - Through

the

- Orbitals
    - Inside
        - The:
            - Structure,
- And
    - Since
        - All *divisions*
            - Of:

a structure

will

- Send
    - Gravitons
        - In:
            - All directions.
- And
    - So
        - From:
            - This,

we see that,

- When
    - Gravitons:

- ▹ Spills

into

- Empty:
  - Space
    - ▹ From:
      - A structure,

we see that,

- They
  - Will
    - ▹ Go:
      - Beyond

the

- Immediate
  - Neighborhood
    - ▹ Of:
      - That structure.

We saw that,

- The
  - Characteristic:
    - ▹ Function

of

- A structure
  - *Exits*
    - ▹ Only
      - Because of:

“*gravitons.*”

- And
    - So
        - If:
            - Gravitons

are

- Present
    - In
        - Some:
            - Place,

then

- At
    - That place,
        - There:
            - Will

be

- An action
    - To
        - Create:
            - A function.
- And
    - So
        - If:
            - Gravitons

are

- Present
    - In
        - ▹ Empty:
            - Space,

then

- There
    - Will:
        - ▹ *Exist*
            - An action

to

- Create
    - A function
        - ▹ Over:
            - There.
- And
    - So
        - ▹ From:
            - These,

we see that,

- Gravitons
    - Can
    - And will
        - ▹ Interact
            - With empty space.
- Then
    - Since

▹ This force
  – Is:

“an attractive force,”

we see that,

- The effect:
  - Of gravitons
    - ▹ On:
      - – Empty orbitals

will

- Be
  - To
    - ▹ Attract:
      - – Them

towards:

“the structure.”

- In
  - Sub section 2.4,

we saw that,

- Fermions
  - And
    - ▹ Anti-fermions

will

- Be:
  - Created,

- ▹ When
  - Orbitals:

"*move*."

- And
  - So
    - ▹ Consider:
      - A circle

in

"*a Cartesian plane*."

- Then
  - Since:
    - ▹ It

is

- A closed:
  - System,

we see that,

- It
  - Has:
    - ▹ A left side
    - ▹ And right side,
      - And also a top
      - And a bottom.
- And
  - So
    - ▹ From:

- This,

we see that,

- The
    - Amount
        - Of:
            - Gravitons

sent

- To
    - The left
        - And to:
            - The right

will

- Be
    - The:
        - Same.
- And
    - So
        - The
            - Effect of:

"*gravitons*"

on

- Both
    - Sides
        - Of:
            - The circle

will

- Be:
    - Equal
        - And:
            - Opposite.
- And
    - So:
        - If

a

- Fermion
    - Gets:
        - Created

at

- The left side
    - Of:
        - That
            - Circle,
- And
    - Another fermion
        - On:
            - The other side,

then

- Those
    - *Two*:
        - Fermions

will

- Average out,
  - Due
    - ▹ To:
      - Timeless-ness.
- And
  - So:
    - ▹ In
      - Effect,

those

- *Two*
  - Fermions:
    - ▹ Will
      - *Not*:

"*appear.*"

- And
  - Similarly,
    - ▹ For:
      - Those *two*:

"*anti-fermions.*"

- And
  - So
    - ▹ When:
      - Orbitals

move

- Towards:
    - A structure,

we see that,

- Space:
    - Near
        - That
            - Structure

will

- Be:

“*curved.*”

- And
    - Also
        - This:
            - Curvature

will

- Extend
    - Beyond
        - The immediate:
            - Neighborhood

of:

“*structures,*”

since

- When
    - Gravitons:

        - ▹ Spills
          - Into:

"*empty space*,"

they

- Will
  - Go:
    - ▹ Beyond

the

- Immediate
  - Neighborhood
    - ▹ Of:
      - The structure.
- But when
  - Orbitals
    - ▹ Move towards:
      - A structure,

those

- Orbitals
  - Will
    - ▹ *Not*:
      - Collapse

because

- Of:
  - The
    - ▹ First exclusion principle.

- Also
    - When
        - Orbitals:
            - Move,

then

- Since:
    - Something
        - Has
            - Been:

"*created*,"

- And
    - Since
        - Neither:
            - Fermions
            - *Nor* anti-fermions,

are:

"*created*,"

we see that,

- Those things
    - Which
        - Where:
            - Created

will

- Be
    - Something

- ▹ That
  - Can:

"*transfer properties*"

in

- The
  - Same
    - ▹ Way:
      - Properties

were

- Transfered
  - Inside:
    - ▹ The
      - Structure.
- And so
  - Properties
    - ▹ Of:
      - The structure

will

- Be:
  - Transfered

to

- All
  - Things
    - ▹ Placed:
      - On

that:

"*curvature.*"

- And so
    - All
        - Things:
            - Placed

on

- That:
    - Curvature

will

- Be
    - Attracted
        - To:
            - That structure.
- And so
    - That curvature
        - In:
            - Space

around

- A structure
    - Will
        - Cause:
            - Gravity.
- And
    - So:

▹ Let

us,

- Call
  - This
    - ▹ Curvature:

"*pseudo-sequences*."

- And
  - Let: L_1
    - ▹ Be:
      - A structure,
    - ▹ Placed:
      - In empty space.

- Then
  - Since
    - ▹ There:
      - Is

a

- *Pseudo-sequence*
  - Around: L_1,
- And
  - Since
    - ▹ The:
      - Amount

of

- Gravitons

- Sent
    - By: L_1

is

- Proportional
    - To:
        - The mass
            - Of: L_1,

we see that,

- Given
    - The mass
        - And position
            - Of: L_1,

we

- Can
    - Derive
        - The:
            - Rules

of

- That:

“*pseudo-sequence.*”

- And
    - So
        - If: L_2
            - Is another:

“*structure,*”

- And
    - If:
        - It

is

- Placed:
    - Near: L_1,
    - Or in
        - That:
            - *Pseudo-sequence*,

then

- There
    - Will
        - Be:
            - A change

in

- The *pseudo-sequence*
    - Of
        - This:
            - Space,

since

- Gravitons
    - Of: L_2

will

- Also:
    - Begin

- ▹ To
  - Have:

"*an effect.*"

- And
  - So
    - ▹ There:
      - Will be:

"*a change*"

in

- The
  - *Pseudo-sequence*
    - ▹ Of:
      - The space.
- And
  - Also
    - ▹ The:
      - Rules

of

- This
  - New:
    - ▹ *Pseudo-sequence*

can

- Be derived
  - Given:
    - ▹ The masses

- ▹ And positions
  - Of:

$$L_1 \quad \textit{and} \quad L_2.$$

- And
  - So
    - ▹ Let:
      - $\overline{L_1}$ *and* $\overline{L_2}$

be

- Used to
  - Denote:
    - ▹ The masses
    - ▹ And positions
      - Of:

$$L_1 \quad \textit{and} \quad L_2.$$

- Then
  - Since
    - ▹ The algorithm:
      - Used

to

- Derive
  - The:
    - ▹ Rules

of

- The *pseudo-sequences*
  - Always

▹ Remains:
   – The same,

we see that,

- At
    - Anytime,
        ▹ Given:
           – $\overline{L_1}$ *and* $\overline{L_2}$,

we

- Can
    - Always
        ▹ Derive:
           – The rules

of:

"*the system.*"

- Or
    - Given:

$$S \quad = \quad \{ \ \overline{L_1}, \quad \overline{L_2} \ \},$$

we see that,

- We
    - Can
        ▹ Always:
           – Derive

the

- Rules

- Of:
  - The
    - *Pseudo-sequence*

in

“*the system.*”

- But
  - Since: L_2
    - Has been:
      - Placed

in

- The
  - Curvature:
    - Caused
      - By: L_1,

we see that,

- L_2 will
  - Start:
    - Moving
      - Towards: L_1.
- And
  - Also
    - Since:
      - There

are

- Some

- Rules
    - ▹ To:
        - Construct

the

- Already
    - Existing:
        - ▹ *Pseudo-sequence*,

we see that,

- The
    - Movement
        - ▹ Of: L_2
            - Towards: L_1

will

- Be
    - Governed
        - ▹ By:
            - Some rules.
- And
    - So
        - ▹ When: L_2
            - Enters

into

- Its
    - New:
        - ▹ Position,

we see that,

- There
    - Will be
        - ▹ Some:
            - *Rules*

to

- Derive
    - The
        - ▹ New:
            - *Pseudo-sequences.*
- And
    - So
        - ▹ The change
            - In: S

will

- Always
    - Be
        - ▹ According
            - To:

"*some rules.*"

- And
    - So
        - ▹ The:
            - Rate

of

- Change
    - Of:
        - The characteristic
            - Function

of

- The set: S
    - Is:
        - Not
            - *Zero.*
- Or
    - We see that,
        - The:
            - Rate

of

- Change
    - Of:
        - The characteristic
            - Function

of

- This
    - System
        - Will *not*
            - Be:

"*zero.*"

- And so

- There
  - ▹ Will
    - – Be:

“*a characteristic function*”

for

- This
  - System
    - ▹ Of:
      - – *Two* structures.
- Also
  - Since
    - ▹ All:
      - – Functions

can

- Be:
  - Constructed

only

- In:
  - A finite:
    - ▹ Number
      - – Of ways,

we see that,

- The:
  - Characteristic
    - ▹ Function

– Of:

"*this system*"

can

- Also
  - Be:
    - Represented:
      - Using

a

- Finite
  - Number
    - Of:
      - Things.
- And
  - So
    - That:
      - Function

will

- Be
  - Made:
    - Up

of

- A finite
  - Number
    - Of:
      - Sub components.

- And
    - Also
        - There:
            - Will

be

- A relation
    - Among
        - All
            - Those:

“*sub components*,”

so that

- They
    - Together
        - Will:
            - Form

a

- Sensible:
    - Characteristic
        - Function.
- And
    - So
        - When: L_2

comes

- Closer
    - To: L_1,

we see that,

- All
    - The:
        - Sub components

of

- That:
    - Characteristic
        - Function

will

- Tend
    - To:
        - Have

the

- Same
    - Distinguishing:
        - Characteristics.
- Or
    - Since
        - The same:
            - Space

is:

“*used*”

to

- Construct

- All
  - ▹ Those:
    - – Sub components,

we see that,

- When
  - Those
    - ▹ *Two*:
      - – Structures

come

- Closer
  - To:
    - ▹ Each
      - – Other,

then

- There
  - Will:
    - ▹ *Not*

be

- Enough
  - Space
    - ▹ To:
      - – Create

the

- Same
  - Number of

        - ▹ Distinguishable:
            - – Sub components.

- And
    - ○ So
        - ▹ The:
            - – Sub components

of

- That:
    - ○ Characteristic
        - ▹ Function

will

- Tend
    - ○ To
        - ▹ Be:
            - – The *same.*

- And
    - ○ So
        - ▹ An:
            - – Action

to

- Oppose
    - ○ This
        - ▹ Will:
            - – Appear.

- But

        - When
            - It:
                - Happens,

we see that,

- That
    - Action
        - Will:
            - Be

to

- Oppose:
    - The creation
        - Of
            - The new:

"*pseudo-sequence.*"

- Or
    - Since
        - That
            - Old:

"*pseudo-sequence*"

- Was:

"*stabilized*"

by

- The existence
    - Of:
        - Its:

- *Rules*,

we see that,

- When
  - We:
    - Try

to

- Change
  - Its:
    - *Rules*,

we see that,

- Those rules
  - Will
    - Oppose
      - That:

"*change*."

- And so
  - There
    - Will:
      - Appear

a

- Repulsive force
  - Between
    - Those:
      - *Two* structures.
- And

- Also
  - This:
    - Repulsive force

will

- Be
  - Proportional
    - To:
      - Their: *masses*,

since

- It
  - Is
    - Due to:
      - The opposition

for

- Creating
  - That:
    - New
      - *Pseudo-sequences*,

which

- In turn
  - Is proportional
    - To:
      - The masses.
- But
  - Even
    - Though,

a

- Repulsive
    - Force
        - Will:
            - Appear,

we see that,

- The
    - New state
        - Of:
            - The system

is

- Still
    - A permissible:
        - State.
- And
    - So,
        - Even
            - Though,

there

- Will
    - Appear
        - A repulsive:
            - Force,

we see that,

- L_1 *and* L_2

    - Will
        - Still:
            - Come closer.

- And
    - So
        - If:
            - We drop

a

- Very light
    - Object
        - Of:
            - One gram,
- And a very heavy
    - Object
        - Of:
            - Ten kilograms

at

- The
    - Same:
        - Time,
- And
    - Also
        - From:
            - The same height,

then

- The

        - Lighter:
            - ▹ Object

will

- Reach
    - The
        - ▹ Ground:
            - First.
- Well,
    - A very very very
        - ▹ Tiny bit:
            - Earlier.
- And
    - So
        - ▹ If:
            - We

see

- Such:
    - A thing,

then

- Gravity
    - Will
        - ▹ Be:
            - Absent

in

- The:

- Quantum
  - World.

- And
  - So
    - Gravity:

will

- Be
  - A force
    - Exclusively
      - Among:

"*structures.*"

- And so:
  - General relativity
    - And
      - Quantum mechanics

will

- Be
  - Incompatible
    - With:
      - Each other.

Also we see that,

- The
  - Repulsive force
    - Among:
      - Fermions

inside:

“*a structure,*”

will

- *Not*
    - Act
        - ▹ As:
            - A repulsive force

among:

“structures,”

since

- That
    - Repulsive force
        - ▹ Among:
            - Fermions

in

- The
    - Inside
        - ▹ Of:
            - The structure,

is

- Just
    - Weak:
        - ▹ Enough

to

- Resist

        - The implosion
            - Of:
                - The structure.

- Also:
    - Gravity
        - Will be:
            - Weaker

than:

"*the weak force*,"

since

- If
    - *Not*,

then

- Gravity
    - Will
        - Overcome:

"*the weak force*,"

- And
    - The:
        - Structure

will

- Behave
    - Unexpectedly
        - With:
            - Size.

- Also
    - Gravity:
        - Will

be

- Very very
    - Weak
        - Compared
            - To:

"*the weak force*,"

since

- If
    - *Not*,

then

- All
    - Properties
        - Of:
            - A structure

will

- Be
    - Transfered
        - Quickly
            - To:

"*all nearby structures*,"

- And

    - So
        - After:
            - Sometime,

all

- Structures
    - In
        - The:
            - Universe

will

- Have
    - The
        - Same:
            - Properties.
- Also
    - Since:
        - There

are

- Some
    - Precise:
        - Rules

for

- The construction
    - Of
        - These:
            - Structures,

we see that,

- They
    - As:
        - A whole

will

- *Not*
    - Have:
        - A wave
            - Nature.
- But all:
    - *Divisions*
        - In:
            - Them

will

- Have:
    - A wave
        - Nature,

since

- There is:
    - *No* induction
        - In:
            - That locality.
- And
    - So
        - There:

- Will

be

- A wave
  - Nature:
    - Locally.
- Also
  - For:
    - The *same*
      - Reason,

we see that,

- The
  - Uncertainty principle:
    - Will
      - *Not*

be

- Applicable
  - For
    - These:
      - Structures.
- And
  - So
    - Everything:
      - About

these

- Structures

- Including:
  - ▹ Position,
    - Will be:

"*precise*."

- And
  - So
    - ▹ These:
      - Structures

will

- Only
  - Have:
    - ▹ A single
      - Copy.
- Also
  - As
    - ▹ A consequence:
      - Of this,

we see that,

- There
  - Will be:
    - ▹ *No*
      - Uncertainty

in

- Their:

"*velocity*."

- Also
    - When
        - These:
            - Structures

are

- Created
    - Using:
        - Induction,

we see that,

- The
    - Directions
        - On:
            - Fermions

will

- Be
    - Used
        - In:
            - The process.
- And
    - So
        - These:
            - Structures

will

- *Not*
    - Have:
        - A direction.

4 Dark matter

In

- Section 3,

we saw,

- How time
  - Can
    - ▹ Emerge
      - From:

“a timeless system.”

- In
  - This:
    - ▹ Section,

we

- Are
  - Going
    - ▹ To:
      - Generalize it,
- And
  - Then
    - ▹ Build:
      - Upon it.
- And
  - So
    - ▹ Let: S_q

be

- A system
  - Of:
    - q structures.
- And
  - Let
    - The:
      - Structures

in

- It
  - Be:

$$L_1, \qquad L_2, \qquad \ldots, \qquad L_{q-1}, \qquad L_q.$$

- Then
  - In
    - This:
      - System,

we see that,

- L_1 will
  - Attract: L_2.
- And
  - When
    - That:
      - Happens,

we see that,

- The
  - Attractive force
    - Between:
      - L_2 *and* L_3

will

- Change
  - The
    - Position
      - Of: L_3,

⋮

- And finally,
  - When: L_{q-1}
    - Changes:
      - Position,

we see that,

- The
  - Attractive force
    - Between:
      - L_{q-1} *and* L_q

will

- Change
  - The
    - Position
      - Of: L_q.
- Then

- We
  - Can:
    - Assume

that,

- When: L_{i-1}
  - Changes:
    - Position,

that

- Change
  - Will:
    - Be
      - Reflected in: L_i

after

- *One*
  - Unit
    - Of:
      - Time.
- And
  - So
    - We can:
      - Assume

that,

- When
  - There:
    - Is

a

- Change
    - In: S_q,

that

- Change
    - Will
        - ▷ Be:
            - Reflected

in

- The entire
    - System
        - ▷ Within:
            - q units of time.
- And so
    - If
        - ▷ We:
            - Make

a

- Change
    - In: S_q,

then

- There
    - Will
        - ▷ Be:
            - *No* change

in

- It
  - After:
    - $q-1$ units
      - Of time.
- And so
  - After:
    - $q-1$ units
      - Of time,

the

- System:
  - Will
    - Remain:
      - As such.
- And
  - So:
    - We can
      - Call: S_q

a

- Timeless system
  - Beyond:
    - $q-1$ units
      - Of time.
- Then
  - When we
    - Iterate

- This:

"*construction*,"

we see that,

- At
  - Some point
    - Of:
      - Time,

we

- Will
  - Have
    - Such:
      - A system

with

- $\underline{p}$ elements
  - In:
    - It.
- In
  - Section 3,

we saw that,

- If:
  - L_1 *and* L_2
    - Are:
      - Structures,

then

- The
    - System:
        - $S_1 \quad = \quad \{ \quad L_1, \quad L_2 \quad \}$

will

- Have:
    - A characteristic
        - Function.
- And
    - So
        - Using:
            - The arguments

which

- We
    - Gave
        - In:
            - Section 3,

we see that,

- At
    - Any:
        - Moment,

the

- Characteristic
    - Function
        - Of: $\quad S_{\underline{p}}$

can

- Only:
    - Handle

a

- Finite
    - Number
        - Of:
            - Things.
- And
    - So
        - When:
            - There

are

- p elements
    - In
        - Such:
            - Systems,

we see that,

- There
    - Will:
        - Be

a

- Time
    - In:
        - It.
- Or

- If:
  - There

are

- More
  - Than:
    - $\underline{p}$ structures
      - In a system,

we see that,

- Initially,
  - Changes:
    - Will

be

- Made
  - In:
    - The first
      - $\underline{p} - 1$ structures,
- And
  - Then
    - Control:
      - Will

be

- Passed
  - To
    - The next:
      - *Division.*

- And
    - So
        - ▷ There:
            - – Will be

a

- New
    - Time
        - ▷ In:
            - – The system.
- And so
    - Let
        - ▷ Us,
            - – Look at:

this:

“*time.*”

- And so
    - Consider
        - ▷ An inductive
            - – Sequence:

$$i_0, \quad i_1, \quad i_2, \quad i_3, \quad \ldots . \tag{6}$$

- And
    - Let: I_0
        - ▷ Be
            - – Used

to

- Denote
  - The
    - ▷ Above:
      - Sequence 6.
- Also
  - Assume
    - ▷ That,

there

- Are:
  - Infinite
    - ▷ Such:
      - Sequences.
- And
  - So
    - ▷ If:

$$I_1, \qquad I_2, \qquad I_3, \qquad I_4, \qquad \ldots,$$

are

- Infinite
  - Number
    - ▷ Of:
      - Such sequences,

then

- We
  - Can
    - ▷ Create

– A sequence:

$$I_0, \quad I_1, \quad I_2, \quad I_3, \quad I_4, \quad \ldots . \tag{7}$$

- And
  - Let: $\mathscr{I}$
    - Be:
      - Used

to

- Denote
  - The
    - Above:
      - Sequence 7.

- Then
  - Since: $\mathscr{I}$
    - Is

an

- Inductive:
  - Sequence,

we see that,

- It
  - Will:
    - Have

a

- Time
  - In:
    - It.

- But
    - Since: I_0

is

- Also:
    - An inductive
        - Sequence,

we see that,

- It
    - Will
        - Also:
            - Have

a

- Time
    - In:
        - It.
- And
    - Similarly,
        - Since all:
            - Elements of: $\mathscr{I}$

are

- Inductive:
    - Sequences,

we see that,

- All

- Of:
    - Them

will

- Also
  - Have:
    - A time.
- And
  - So
    - If: I_n

is

- An arbitrary
  - Element
    - Of: $\mathscr{I}$,

let us,

- Compare
  - The time
    - Speeds
      - In:

$$I_n \quad \textit{and} \quad \mathscr{I}.$$

- And so
  - Let
    - The speed:
      - Of time

in

- I_n be: c_0.
  - And
    - That
      - In: $\mathscr{I}$ be: c_1.
- Then
  - If:

$$c_0 \quad > \quad c_1,$$

we see that,

- The sequence: $\mathscr{I}$
  - Cannot
    - Be:
      - Created,

since

- The elements
  - Of: $\mathscr{I}$
    - Will
      - Overshoot: $\mathscr{I}$.
- Also
  - If:

$$c_0 \quad = \quad c_1,$$

then

- The sequence: $\mathscr{I}$
  - Cannot
    - Be:
      - Created,

since

- The sequence: $\mathscr{I}$
    - And
        - The elements:
            - In it

will

- Be
    - At
        - The same:
            - Level.
- But
    - If:

$$c_0 \quad < \quad c_1,$$

then

- The sequence: $\mathscr{I}$
    - Will
        - Be:
            - Creatable,

since

- The
    - Elements
        - Of: $\mathscr{I}$

will

- Be

- Contained
    - In:
        - It,
- And so: $\mathscr{I}$
    - Would
        - Be:
            - Definable.
- And
    - So
        - The:
            - Speed

of

- Time
    - In: $\mathscr{I}$

will

- Be
    - Greater:
        - Than

that

- Of:
    - All
        - Elements
            - In: $\mathscr{I}$.
- And
    - So

- ▹ From:
  - This,

- And
  - Since
    - ▹ The speed
      - Of:

"*light*"

in

- The
  - *Pseudo-sequences*
    - ▹ Of: $S_{\underline{p}}$,

is

- Equal
  - To
    - ▹ The speed
      - Of:

"*earthly light,*"

we see that,

- The emergent
  - Time
    - ▹ In:
      - A timeless system

beyond:

"$\underline{p}$ *units of time*"

will

- Be
    - Faster
        - Than:
            - The speed

of:

“*earthly light.*”

- And
    - So
        - From:
            - This,
- And
    - Since
        - A timeless system
            - Beyond:

“$\underline{p}$ *units of time*,”

has

- A faster
    - Time
        - In:
            - It,
- And
    - Since
        - This faster:
            - Time

did

- *Not*
    - Exist:
        - Previously,

we see that,

- This
    - New:
        - Time

has

- To
    - Be:
        - *Created.*
- But
    - If
        - We:
            - Increase

the

- Time speed
    - Of
        - That:
            - *Pseudo-sequences*

to

- Get
    - That
        - New:
            - Faster time,

then

- The speed
    - Of
        - ▹ That:
            - Faster time,
- And
    - That
        - ▹ In:
            - The:

“*pseudo-sequences*”

will

- Be
    - The:
        - ▹ Same,
- And
    - There:
        - ▹ Will

be

- *No*
    - Faster:
        - ▹ Time.
- And so
    - We see that,
        - ▹ The:
            - New time

has

- To
  - Be
    - ▹ Created:
      - – Anew.
- And
  - So
    - ▹ Something:
      - – New

should

- Be:
  - Created
    - ▹ To:
      - – Represent

this:

“*new time.*”

- And
  - So
    - ▹ There:
      - – Will

be

- Something
  - New:
    - ▹ That

will

- Represent
    - This:
        - New
            - Time.
- Then
    - Since
        - Only:
            - Orbitals

can

- Represent
    - This:
        - New
            - Time,

we see that,

- New
    - *Orbitals*
        - With:
            - A faster time

will

- Be
    - Created,
- And
    - Also
        - These:
            - New orbitals

will

- Be:

"*created*"

on

- Top
    - Of
        - The old:
            - Space.
- Also
    - Since:
        - These

new

- Orbitals
    - Have
        - A faster:

"*time speed,*"

we see that,

- The:

"*first exclusion principle*"

will

- *Not*
    - Be:
        - Violated.
- And so

- It
    - Will
        - Be:

"*an area*"

where

- There
    - Are:
        - *Two*
            - Times.
- And
    - So
        - From:
            - These,
- And
    - Since:
        - There

is

- An inductive
    - Transfer
        - Of:
            - *Something*,
- And
    - Since
        - Tions:
            - Creates

the

- Next
    - In:
        - An
            - Induction,

we see that,

- These
    - New
        - Orbitals:
            - Will

be

- Created
    - Inductively
        - By:
            - Tions.
- And
    - So
        - From:
            - What

we

- Saw
    - In
        - Sub section 2.4,

we see that,

- Tions

- And
    - ▹ Nions

will

- Will
    - Act:
        - ▹ Together.
- And
    - So:
        - ▹ Initially,

all

- Those
    - New:
        - ▹ Orbitals

will

- Be
    - Created
        - ▹ At:
            - The same place,
- And
    - Then:
        - ▹ By

the

- Action
    - Of:
        - ▹ Nions

- The:

“first exclusion principle”

will

- Become:

“applicable.”

- And
    - So
        - Those
            - Newly created:

“orbitals”

- Will:

“move,”

- And
    - So
        - They:
            - Will

be

- Filled
    - With:
        - Fermions.
- And
    - So
        - Initially,
            - Dark matter

will

- Be
    - Created
        - As:
            - A lump,
- And
    - Then
        - There
            - Will be:

"an explosion"

like

- What
    - We
        - Saw:
            - In sub section 2.4.
- And
    - Then:
        - After

that,

- The
    - Splitting:
        - Which

we

- We
    - Saw

  - ▷ In sub section 2.12
    - Will:

"*occur.*"

- Also
  - Since:
    - ▷ Tions
      - And nions

created:

- Earthly
  - And
    - ▷ Dark matter
      - Orbitals,

we see that,

- Dark matter
  - Orbitals
    - ▷ Will:
      - Be

as

- Stable
  - As:
    - ▷ Earthly
      - Orbitals.

Therefore

- Since
  - The speed

            - Of:
                - Light

in

- Dark matter
    - Is:
        - Greater
            - Than

that

- Of:
    - The
        - Speed
            - Of:

"*earthly light*,"

we see that,

- Light
    - Of
        - Those:
            - Orbitals

will

- *Not*,
    - Or cannot
        - Interact:
            - With us.
- And
    - So:

        - Dark matter

will

- Be
    - Invisible
        - To:
            - Us.
- But:
    - Earthly
        - Light

can

- Pass
    - Through:
        - Dark matter,

since

- It is
    - Built
        - On
            - Top of:

"*earthly orbitals.*"

- Also
    - When
        - There
            - Are:

"*dark matter orbitals,*"

we see that,

- They
  - Will
    - ▹ Emit:
      - Space-bosons.
- But since
  - Orbitals
    - ▹ Send:
      - Space-bosons

in

- All:

"*directions*,"

- And
  - Since:
    - ▹ Dark matter

is

- Wholly
  - Contained
    - ▹ In:
      - Earthly orbitals,

we see that,

- Dark matter
  - Space-bosons
    - ▹ Will
      - Be:

"forced"

to

- Pass
  - Through:
    - Earthly
      - Orbitals.
- And so
  - If: c_1
    - Is

the

- Speed
  - Of:
    - Earthly
      - Light,
- And: c_2
  - That
    - Of:
      - Dark matter,

then

- When:
  - Dark matter
    - Space-bosons

passes

- Through:
  - Earthly

- ▹ Orbitals,

we see that:

$$c_2 \quad - \quad c_1$$

of

- Dark matter
    - Space-bosons
        - ▹ Will:
            - Act

as

- An inductive:
    - Component
        - ▹ For:

"*earthly orbitals.*"

- And so
    - With
        - ▹ Respect
            - To:

"*earthly orbitals,*"

we see that,

- There
    - Will
        - ▹ Be:

"*a gravitational effect*"

- For:

“*dark matter space-bosons.*”

- But
    - Since:
        - ▹ Dark matter
            - Space-bosons

are

- Gravitationally
    - Neutral
        - ▹ With
            - Respect to:

“*dark matter structures,*”

we see that,

- The
    - Force:
        - ▹ Due

to

- Dark matter
    - Gravitons
        - ▹ On:
            - *Earthly orbitals*

will

- Be
    - Greater
        - ▹ Than
            - That of:

“*dark matter space-bosons.*”

- Also
    - Since
        - ▷ Time speed
            - In:

“*dark matter*”

is

- Greater
    - Than:
        - ▷ Earthly
            - Fermions,

we see that,

- With
    - Respect
        - ▷ To:
            - Earthly orbitals,

all

- Dark matter
    - Bosons

will

- Have
    - An
        - ▷ Inductive:
            - Component.
- And so

- With
  - Respect
    - To:

"*earthly orbitals*,"

we see that,

- There
  - Will
    - Be:
      - A gravitational effect

for:

"*dark matter bosons*."

- Also since:
  - Orbitals
    - And
      - Fermions

are

- Variants
  - Of:
    - Each
      - Other,

we see that,

- The effect
  - Of
    - Dark matter:
      - Space-bosons

- And bosons

on

- Earthly
  - Things
    - ▹ Will
      - Be:

"*the same.*"

- Also
  - Since
    - ▹ Time speed
      - In:

"*dark matter*"

is

- Greater
  - Than:
    - ▹ Earthly
      - Fermions,

we see that,

- Dark matter
  - And:
    - ▹ Earthly
      - Fermions

will

- Be
  - Very:

            - Different.

- And
    - So:
        - Earthly
            - Fermions

cannot

- Absorb:
    - Dark matter
        - Bosons.

- And so:
    - Dark matter
    - And:
        - Earthly
            - Fermions

will

- *Never*
    - Interact
        - With:
            - Each other,

like

- Earthly
    - fermions
        - And bosons:
            - Interact.

- In

- Section 5,

we

- Will:
    - Show

that,

- When
    - Dark matter
        - Massive
            - Lump:

"*explodes*,"

then

- *Not*
    - Only:
        - Dark matter
            - Orbitals,
- But
    - Earthly orbitals
        - Will:
            - Also be:

"*created*."

- Then
    - Since
        - There
            - Are:

"*no rules*"

to

- Choose
  - The
    - Speed
      - Of:

"*time*"

- In:

"*dark matter orbitals,*"

we see that,

- The
  - Speed
    - Of:
      - Time

in:

"*dark matter orbitals*"

will

- Be:
  - A random
    - Value
      - From:

"*finite range.*"

- In
  - Sub section 2.7

we saw that,

- If
    - There
        - Is:
            - A probability

for

- Something
    - To:
        - Happen,

then

- It
    - Will
        - Happen:
            - Sometime,
- And
    - In
        - Sub section 2.9,

we see that,

- If
    - *Two* things
        - Can:
            - Happen,

then

- They
    - *Both*

- ▹ Can:
  - Happen

at

- The
  - Same:
    - ▹ Time.
- And
  - So
    - ▹ From:
      - These,
- And
  - Since:
    - ▹ Time
      - Speed

in:

"*dark matter orbitals*"

is

- A random
  - Value
    - ▹ Chosen
      - From:

"*a finite range*,"

we see that,

- Two
  - Or more:

    - ▹ Dark matter
      - – Orbitals

with

- Different
  - ◦ Time
    - ▹ Speeds
      - – Maybe:

"*created.*"

- But
  - ◦ Even
    - ▹ Though,
      - – More

than

- *One*
  - ◦ Time
    - ▹ Speed:
      - – Orbitals

can

- Be:

"*created,*"

we see that,

- The number
  - ◦ Of
    - ▹ Different
      - – Time speeds:

"created,"

will

- Always
    - Be:
        - Less
            - Than: $\underline{p}$,

since

- If:
    - More
        - Than: $\underline{p}$
            - Time speeds:

"are created,"

then

- An
    - Induction
        - Will:
            - Appear,
- And
    - Thereby:
        - An undefined:
            - Time

will:

"appear."

- But
    - Since:

            ▷ Earthly
                - Orbitals

are

- Also
    - Created
        - ▷ Along
            - With:

"*dark matter orbitals*,"

we see that,

- When
    - Two
        - ▷ Or
            - More:

"*dark matter orbitals*,"

with

- Different
    - Time speed
        - ▷ Are:
            - Created,

then

- More
    - Earthly orbitals
        - ▷ Will be:
            - Created.
- And

    - When
        - This:
            - Happens,

we see that,

- The:

“*first exclusion principle*”

have

- To
    - Be:
        - Satisfied,

for

- All:
    - Earthly
        - Orbitals.
- And
    - So
        - From:
            - This,
- And
    - Since:
        - A timeless system

beyond:

“$\underline{p}$ *units of time*”

can

- Exist
    - With
        - Just *one*
            - Faster:

"time speed orbitals,"

we see that,

- When
    - Many:
        - Different

"time speed orbitals,"

- Are:

"created,"

then

- Some
    - Faster
        - Time:
            - Orbitals

maybe

- Thrown out
    - Of:
        - The
            - System.
- And
    - So

- There
  - Maybe:

“*galaxies*”

in

- Which
  - There
    - Are:
      - Only

a

- Few
  - Stars
    - That:
      - Can

be

- Detected
  - Using:
    - Earthly
      - Equipments.
- And
  - Also
    - From:
      - This,

we see that,

- The
  - Number

    - ▹ Of:
        - Things

in:

“*a probabilistic space*”

will

- Always
    - ◦ Be:
        - ▹ Less
            - Than: $\underline{p}$.
- Also
    - ◦ Due
        - ▹ To:
            - These

we see that:

“*gravitational forces*”

from

- Such
    - ◦ Systems
        - ▹ Can:
            - Interact

with

- Elements
    - ◦ Outside
        - ▹ The:
            - System.

- And
    - So
        - There:
            - Will

be

- More
    - Gravitational
        - Force:
            - On stars

in

- The
    - Outskirts
        - Of:
            - A galaxy.

So we see that,

- When
    - The first
        - Pons barrier
            - Is:

“*crossed*,”

we

- Will
    - Get:
        - Structures.
- And when

- The
    - Second
      - Is:

"*crossed*,"

we

- Will
  - Get:
    - Dark matter.
- But we see that,
  - This creation
    - Of:
      - Dark matter

will

- Be:

"*applicable*"

only

- If
  - There
    - Is:

a

- Definite
  - Inductive:
    - Process

due

- To:
    - Gravitational
        - Interaction.
- And
    - So
        - In:
            - The strict sense,

what

- We
    - Have:
        - Given

is

- The
    - Ideal:
        - Case.
- And
    - So
        - In:
            - Reality,

we see that,

- There
    - Should:
        - Be

a

- Very

- ◦ High:
  - ▹ Level

of

- Gravitational
  - ◦ Interaction
    - ▹ To
      - Get:

"*dark matter.*"

- And
  - ◦ So
    - ▹ This:
      - Phenomena

will

- Be:

"*evident*"

only

- If:
  - ◦ The
    - ▹ Overall:
      - Change

is

- Very
  - ◦ High
    - ▹ In:
      - The system.

Prediction. Let

- $\mathscr{S}^{\star}$ be
    - A collection

of

- More
    - Than:
        - $\underline{p}$ stars.
- If
    - These
        - Stars
            - Are:

"*tightly coupled*,"

- And
    - Also
        - If:
            - The interaction

among

- Them
    - Is
        - *Not*:
            - Noticeable,

then

- There:
    - Will

be

- *No*
  - Dark matter
    - In:
      - It.

5 Dark energy

Consider

- The
  - Inductive
    - Sequence:

$$i_1, \quad i_2 = f(\mathcal{C}, i_1), \quad i_3 = f(i_1, i_2), \quad i_4 = f(i_2, i_3), \quad \ldots, \tag{8}$$

where

- $\mathcal{C}$ is
  - A constant.

Then

- We see that,
  - The
    - Generator: f

of

- The sequence
  - Will
    - *Never*:
      - Change,
- And

- Only:
  - i_{k-2} *and* i_{k-1}

will

- Be
  - Given:
    - As parameters
      - To: f

while:

"*generating*: i_k,"

- And
  - *No*
    - Other:
      - Element

will

- Be
  - Used:
    - At
      - That: *time*.
- And
  - So
    - The above:
      - Sequence 8,

will

- *Never*
  - Be:

$$i_1, \qquad i_2 = f(i_1), \qquad i_3 = f(i_2), \qquad i_4 = f(i_2,\ i_1), \qquad \ldots,$$

or

$$i_1, \qquad i_2 = f(i_1), \qquad i_3 = f(i_2), \qquad i_4 = f(i_3), \qquad \ldots,$$

or

$$i_1, \qquad i_2 = f(i_1), \qquad i_3 = g(i_2), \qquad i_4 = f(i_3), \qquad \ldots.$$

- And
    - So
        - ▹ We see that,
            - The:

"*basic structure*"

of

- A sequence
    - Will
        - ▹ Never:
            - Change.
- And so
    - In
        - ▹ All:
            - Inductive processes,

we see that,

- There
    - Will
        - ▹ Be:
            - *Something*

that

- Will
    - Enforce
        - Its:
            - *Basic structure,*
- And
    - That
        - That:
            - Sequence

will

- Always
    - Move:
        - *Forward.*
- And so
    - Let
        - Us
            - Call it:

"*the forward relation.*"

- And
    - So
        - From:
            - This,
- And
    - Since
        - All:

- Changes

can

- Only
  - Be
    - Due to:
      - Induction,

we see that,

- An inductive
  - Sequence
    - Will:
      - *Not*

have

- Another
  - Induction
    - Inside
      - Its:

“*basic structure*,”

- And
  - So

“*the forward relation*.”

will

- See
  - To:
    - It

that,

- There
  - Is:
    - *No*
      - Induction

in

- All:
  - Basic
    - Structures.
- In
  - Section 4,

we saw that,

- Gravitational
  - Interaction
    - Between:
      - Structures

can

- Form
  - An
    - Inductive:
      - Process.
- And
  - So
    - When
      - We apply:

“*the forward relation*,”

on

- That
    - Inductive:
        - ▹ Process

of

- Gravitational
    - Interacting
        - ▹ Structures,

we see that:

“*the forward relation*,”

will

- Forbid
    - All
        - ▹ Structures
            - – In:

“*the universe*,”

to

- Interact
    - With:
        - ▹ Each
            - – Other

via:

“*gravity*.”

- And
    - So:

"*the forward relation*,"

will

- *Not*
    - Be
        - ▷ Applicable
            - Inside:

"*galaxies*,"

but

- It
    - Will
        - ▷ See:
            - To it

that,

- Structures
    - Of
        - ▷ Two different:
            - Galaxies

will

- *Not*
    - Interact
        - ▷ Via:
            - Gravity.
- And so

- There
  - ▹ Will:
    - Be

a

- Noticeable
  - Repulsive
    - ▹ force:
      - Between

all:

“*galaxies.*”

- And so
  - The expansion
    - ▹ Of:
      - The universe

will

- Be
  - More
    - ▹ Than:
      - What

we

- Expect
  - It
    - ▹ To:
      - Be,

so that

- The repulsion
    - Will
        - Have:
            - An effect.
- But we see that,
    - Galaxies
        - Can:
            - Interact

via:

"*gravity*,"

- If:

"*the forward relation*"

will

- *Not*
    - Be:
        - Violated.

Or we see that,

- A galaxy
    - Can
        - Act
            - As:

"*a single entity*,"

- And
    - So

- ▹ A finite:
  - Number

of

- Galaxies
  - Can
    - ▹ Interact
      - Via:

"*gravity*."

- And so
  - There
    - ▹ Will
      - Be:

"*galactic clusters*."

- But
  - All:
    - ▹ Galaxies

will

- *Not*
  - Form:
    - ▹ A cluster,

since

- If:
  - So,

then

- It
    - Will
        - ▹ Mean:
            - – That,

all

- Structures
    - Interact
        - ▹ Via:
            - – Gravity.
- And so
    - Let
        - ▹ Us:
            - – Call

this

- Force:

“*the forward force.*”

- Then
    - Since
        - ▹ The forward force:
            - – Forbids

the

- Creation
    - Of:
        - ▹ An
            - – Induction

in

- All:
    - Basic
        - ▹ Structures,

we see that,

- The action
    - Of
        - ▹ This:
            - Force

will

- Always
    - Be:
        - ▹ *Non-inductive.*
- And so
    - When
        - ▹ This force:
            - Causes

the

- Expansion
    - Of:
        - ▹ The
            - Universe,

we see that,

- Orbitals
    - Will be

        - ▷ Created:
            - *Non-inductively*.

- Also since
    - This
        - ▷ Force
            - Is:

"*repulsive*,"

- And
    - Since
        - ▷ It
            - Opposes

the

- Large
    - Scale
        - ▷ Action
            - Of: *gravity*,

we see that,

- If
    - This
        - ▷ Force

is

- As
    - Strong
        - ▷ As:
            - Gravity,

- Or
    - Comparable
        - With:
            - Gravity,

then

- There
    - Will
        - Be:
            - *No* gravity.

for

- Structures
    - That
        - Does *not*:
            - Belong

to:

"*a galaxy*."

- And so
    - This
        - Force:
            - Will make

those

- Structures
    - Very:
        - Unstable.
- And

- So
  - ▹ This:
    - Force

will

- Be
  - Very very
    - ▹ Weak:
      - Compared

to:

“*gravity*.”

- In
  - Sub section 2.4,

we saw that,

- Initially,
  - There
    - ▹ Was:
      - A massive lump,
- And
  - Then
    - ▹ It:
      - Exploded

after

- Enough
  - Fermions
    - ▹ Have been:

- Created.

- But
    - If:
        - We look
            - At it,

from

- The
    - Angle
        - Of:

"*the forward relation*"

we see that,

- Since
    - All:
        - Orbitals

are

- Filled
    - With:
        - Fermions,
            - It will:

"*look*"

like

- *No* orbital
    - Have
        - A fermion:

- In it,

which

- Inturn
    - Would
        - Contradict:
            - The fact

that,

- The next
    - In:
        - The
            - Sequence

cannot

- Be:

“*created.*”

- And
    - So:

“*the forward relation*”

should

- Be:

“*applicable,*”

- And
    - So:
        - It

will

- Cause
    - That:
        - Explosion.
- And
    - Also
        - The same:
            - Logic

will

- Be
    - Applicable
        - For:
            - Dark matter lump.
- But
    - When
        - We:
            - Look

at

- It
    - In:
        - Detail,

we see that,

- Initially,
    - That
        - Lump:
            - Will grow,

- And
    - Its
        - Mass:
            - Will

be

- Equal to
    - That
        - Of:
            - A galaxy.

Then we see that,

- Using
    - So
        - Much:
            - Of mass,

it

- Is
    - Possible
        - To
            - Define:

"*the inductive process*"

which

- We
    - Saw:
        - In
            - Section 4.

- And so
    - At:
        - ▹ This point,
            - In theory:

"the forward relation"

can

- Create
    - An:
        - ▹ Explosion

so

- As
    - To
        - ▹ Realize:
            - The definition

of:

"the process"

which

- We
    - Saw:
        - ▹ In
            - Section 4.
- But
    - If
        - ▹ It:
            - Does so,

then:

“*the forward relation*”

- Will
  - Cancel:

“*itself*”

since

- It
  - Cancels
    - ▹ Itself:
      - In a galaxy.
- And
  - So:

“*the forward relation*”

will

- Also
  - Consider
    - ▹ The fact
      - That:

“*clusters are feasible*,”

- And
  - Let
    - ▹ The lump:
      - Grow,
- And

- When
  - the mass
    - Of:

"*the lump*"

is

- Large
  - Enough
    - To:
      - Create

enough:

"*galaxies*"

- Then:

"*the forward relation*"

- Will
  - Be:

"*applied*"

so that

- Its
  - Future
    - Application
      - Will be:

"*sensible.*"

- And
  - So

        - ▹ Cause:
            - The explosion.

- Also
    - The
        - ▹ Same:
            - Logic

can

- Is
    - Applied
        - ▹ To:
            - Dark matter lump,
    - Except
        - ▹ That:

“*star mass*”

should

- Be
    - Used
        - ▹ Instead
            - Of:

“*galactic mass.*”

- Also
    - Similarly,
        - ▹ When

a

- Dark matter

    - Is:
        - ▹ Created,

we see that,

“gravitational forces”

in

- The
    - System
        - ▹ Will:
            - Increase.
- And it
    - Will
        - ▹ Be:
            - Like

the

- Generator
    - Of:
        - ▹ The sequence
            - Is changing.
- And
    - So:

“the forward relation”

will

- Be:

“applicable,”

- And
    - So
        - ▹ More:
            - Earthly orbitals,

will

- Be:

"created,"

- So that:

"*gravitational forces*"

- Due
    - To:

"*dark matter*"

will

- *Not*
    - Have
        - ▹ An:
            - Effect

in

- The system
    - Which
        - ▹ Created:
            - It.
- In
    - Section 4,

we saw that,

- There
    - Can be:
        - ▹ Dark matter
            - Galaxies.
- And so
    - When there
        - ▹ Are:
            - Such things,

we see that,

- Expansion
    - Of
        - ▹ The
            - Universe

due

- To
    - The:
        - ▹ Forward
            - Force

will

- Be:

"*more.*"

//
//
//
//

```
///////////
/////////// Calculation of no: structures in the universe later.
///////////
/////////////////////////////////////////
/////////////////////////////////////////
/////////////////////////////////////////
/////////////////////////////////////////
```

6 Axiomatizability

Universal equivalence principle. For

- Every
  - Mathematical:
    - ▷ Construction,

there

- Will:
  - *Exists*

an

- Equivalent
  - Physical
    - ▷ Construct,
- And
  - *Vice versa*,

since

- A rule
  - Will

      - Be:
        - *True*

for:

"*mathematics,*"

if

- And
  - Only:
    - If,

it

- It
  - Is:
    - Permitted

in

- This:
  - *Universe.*
- And
  - So
    - If:
      - There

are

- Many:
  - *Universes,*

then

- All

        - Rules
            - Of:
                - All universes

will

- Be:
    - *True*
        - In:
            - *Mathematics.*
- But
    - If:
        - A rule

is

- Valid:
    - *Somewhere*
        - In:
            - *Mathematics,*

then

- It
    - Will

be

- Valid
    - Everywhere
        - In:
            - *Mathematics.*
- Or

- If
    - There:
        - Is

a

- Condition
    - To
        - Apply:
            - A rule,

we

- Assume
    - That,
        - That:
            - Condition

is

- A part
    - Of:
        - That:
            - *Rule.*
- And
    - So
        - All:
            - *Rules*

of

- All *universes*
    - Will
        - Be:

– Valid

in

- All:
  - *Universes.*
- And
  - So:
    - ▷ In
      - – Effect,

all

- Universes
  - Will:
    - ▷ Be
      - – The: *same.*
- Or since:
  - *Mathematics*
    - ▷ Is
      - – The:

"*underlying-principle*"

of

- All
  - The:
    - ▷ Universes

we

- Can:

    - Define,

we see that,

- In
    - Effect,
        - All:
            - Universes

will

- Be:
    - The
        - Same.
- Also
    - If:
        - The
            - Set

of

- Rules
    - *Changes*,

then

- Only
    - Those rules:
        - Can
            - Change it.
- But
    - When
        - It:

- Tries

to

- Change
  - Itself,

then

- Those
  - Things
    - That:
      - Try

to

- Make
  - That change
    - Will:
      - Change.
- And
  - So
    - There:
      - Will

be

- *No*
  - Definition

for

- What
  - Is
    - To be:

        - *Made.*

- And
    - So
        - ▹ It
            - Will be:

"*impossible*"

for

- Those
    - Rules
        - ▹ To
            - Change:

"*itself.*"

- And
    - So
        - ▹ From:
            - This,
- And
    - Since
        - ▹ Everything:
            - *Definable*

can

- Be
    - Defined
        - ▹ Using
            - Those:

"*rules*,"

we see that,

- There
  - Will be
    - ▹ *No*:
      - Definition

for:

"*change*,"

in

- That
  - Set.
- And
  - So
    - ▹ That set
      - Of:

"*rules*"

will

- Always
  - Remain
    - ▹ The:
      - *Same*.
- Also
  - If: *something*
    - ▹ Of
      - An: *universe*

is

- *Not*
    - Valid
        - In:
            - *Mathematics*,

then

- That:
    - *Universe*
        - Will
            - Be:

"*beyond*"

the

- *Scope*
    - Of:
        - *Mathematics*.
- And
    - So
        - There:
            - Will

be

- *No* point:
    - In:
        - *Talking*
            - About: *them*,
    - Or of

        ▷ Their:
            – *Axiomatizability*.

- In
    ◦ Sub section 2.1,

we see that,

- If
    ◦ A part
        ▷ Of:
            – A *system*

have

- Some:
    ◦ *Rules*,

then

- That
    ◦ Part
        ▷ Will:
            – Follow

those:

"*rules*,"

- But
    ◦ If:
        ▷ *Not*,

then:

- That:

“*part*”

will

- Take
  - *One* of:
    - ▹ The
      - Possible:

“*states.*”

- And
  - So
    - ▹ *Everything*:
      - About

this

- Universe
  - Is:
    - ▹ *Understandable.*
- And
  - So:
    - ▹ *Physics*
      - Is:

“*axiomatizable.*”